Investigating the Relationship between Teaching Games for Understanding
and High School Physical Education Students' Enjoyment,
Self-Efficacy, and Intentions to Enroll

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Submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Applied Health Sciences
(Kinesiology)

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© July 2016

Dedication

I dedicate this Master of Arts (MA) Thesis to:

My parents, Ross and Sue – I would not be where I am today, or have completed this thesis without the two of you. The two of you have empowered me to become the man that I am today. Over the course of the past 25 years you have supported me, empowered me, and given me many of the skills that were necessary for completing this thesis. Thank you for all the support you've given me and taking such a deep interest in my passions throughout my life. Thank you for being my biggest fans and encouraging me to pursue my passions and interests. I love you guys!

My wife, Katie – Words cannot begin to describe the love and appreciation I have for you! You are so passionate and encourage others to follow their passions. Not only have you learned a lot about sports, physical education, and my area of research; but, you have continually pushed me to pursue excellence in all that I do. I know that being engaged while I was finishing my masters may have been a struggle; thank you for coming along for the ride with me and helping me to complete this thesis. Thank you for all of the adventures we have been on so far and all of those that have yet to come! I love you Katie!

Abstract

Physical education (PE) is a useful course which provides a variety of physical, cognitive, and affective benefits to students; however, rates of student enrollment in Canadian PE classes are in decline (Lodewyk & Pybus, 2013). Teaching Games for Understanding (TGfU) was developed as a means of teaching students to be better games players and enjoy PE more than traditional teaching methods (e.g. Collier, 2005; Mandigo, Holt, Anderson, & Sheppard, 2008). Research has demonstrated that there is a link between TGfU and enjoyment (e.g. Mandigo et al., 2008), self-efficacy (Gubacs-Collins, 2007), and between enjoyment and participation in sports or physical activity (Kidman & Lombardo, 2010); however, there has been minimal research examining TGfU's effect on student enrollment. Three ninth-grade PE teachers and 71 grade nine students in a southwestern Ontario school obtained consent to participate in the study. Questionnaires were used to collect data on four occasions across a two-week TGfU unit. Repeated-measures analysis revealed that ninth grade student enjoyment, self-efficacy, and intentions to enroll remained static over time ($p > 0.05$). Analysis also revealed that students who reported high enjoyment at baseline decreased in enjoyment over the course of the TGfU unit ($p = 0.00$). Students reported that the unit was fun and they liked the games aspect of TGfU; while the students disliked the unit because it was boring. Findings of decreased enjoyment in students with initially high enjoyment is novel to this study with previous findings have shown an increase in enjoyment (e.g., Jones, Marshall, Peters, 2010). Future research should continue to examine the effects of various instructional models on student enrollment to provide the benefits that PE has to offer.

KEYWORDS: Teaching Games for Understanding (TGfU), PE, Enjoyment, Enrollment

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Chapter 1-Introduction

There is little doubt that physical education (PE) offers a great opportunity to help students develop their whole being; not simply their physical body or skills, but also their cognitive (thinking) abilities and affective (social and emotional) aspects of being (Wall & Murray, 1990). This should be the focus of a PE program, particularly one which will be effective (e.g. Memmert & Koenig, 2007; Kirk & MacPhail, 2002; Richard & Wallian, 2005). Unfortunately, in physical education in the past the emphasis was on ensuring students developed the skills or techniques which would be used in sports and games (Kirk, 2014; Francis, 2009; Barker, 2010) often to the neglect of affective and cognitive development (Butler & McCahan, 2005). In the early 1900s instruction in physical education was very teacher centred, with the instructor demonstrating all movements before students would repeat or copy the movements they just observed. Over time the emphasis in PE shifted from gymnastics/calisthenics to playing games which remains the focus in Canadian PE today (Singleton, 2009; Sproule, Ollis, Gray, Thorburn, Allison, & Horton, 2011; Oslin & Mitchell, 2006). While there has been a shift in what is done/taught in PE, a teacher-centred model of direct instruction has remained the common practice (Metzler, 2005; Butler & McCahan 2005; Oslin & Mitchell, 2006), particularly in secondary schools (Stolz & Pill, 2014) despite advancements in pedagogy and instructional models.

In Canadian schools, physical education is not a mandatory course throughout the entire education of students. For instance in Ontario, PE becomes an optional class once students reach grade 10 (Sulz, Humbert, Gyucsik, Chad, & Gibbons, 2010) granting students the choice to continue to enroll in PE (gaining from its benefits) or to opt out.

When PE becomes optional, students are much less likely to enroll in the course than when it is mandatory as only 49% of Ontario grade 10 students enrolled in PE compared to 98% of grade 9 students (Sulz et al., 2010). This is an issue elsewhere, as in British Columbia where PE enrollment drops to 10% for females and 22% for males in optional years (Sulz et al., 2010); and enrollment in optional high school PE is only 19% in the United States (Shen, 2010). This lack of enrollment represents lost opportunities for students to continue to develop the skills to be physically active lifelong, including the confidence to choose activities to pursue (Whitehead, 2001) and the development of a variety of life skills which can be applied in other facets of one's life (Sheppard & Mandigo, 2009). Studies like those performed by Lodewyk & Pybus (2013) have revealed that students choose to enroll in PE based upon a number of factors, including their enjoyment of activities, how competent they perceive themselves to be, the social interactions which are present in the class, as well as the types of activities performed. In addition to these elements, external factors such as parental or personal views of PE's importance were found to have an influence.

Teaching Games for Understanding (TGfU), an instructional model first designed in the early 1980s (Bunker & Thorpe, 1986), represents a shift from the traditional, direct method of instruction as it engages students in modified games to help them understand how to play games. To illustrate, TGfU represents an alternative method to instruction with the power to engage students and increase their desire to participate in PE further, as it shifts the emphasis from rote performance of skills without context for where the skill will be applied, to situating development within games (e.g. Sproule et al., 2011; Collier, 2005; Griffin & Patton, 2005). Research has demonstrated that TGfU can help students to

develop self-efficacy in their skills (e.g. Harrison, Blakemore, Richard, Oliver, Wilkinson, & Fellingham, 2004) and decision making (e.g. Gubacs-Collins, 2007). It is also perceived to create a novel, enjoyable learning environment for students (e.g. Mandigo, Holt, Anderson, & Sheppard, 2008) that may promote enrollment; however, research has yet to determine this conclusively. According to Mandigo, Butler, and Hopper (2007), TGfU meets the standards and expectations of curricula across Canada and can be safely implemented to help students gain the benefits of quality PE programs.

Oslin and Mitchell (2006), Harvey and Jarrett (2014), and Holt, Strean, and Bengoechea (2002) suggest that the affective domain (e.g. enjoyment) is not extensively explored in regards to game-centred approaches like TGfU; hence, these authors call for more work in this area. Based upon this need, this study posits five research questions. First, does TGfU relate to more enjoyable learning than previous physical education experiences for students in the ninth grade? Based upon the findings of Mandigo et al. (2008) that TGfU promotes enjoyment in elementary aged students, it is anticipated that secondary school students will also find TGfU to provide a more enjoyable learning environment. Second, how does participation in TGfU relate to students' intentions to enroll in future physical education? If TGfU does represent a more enjoyable learning environment, it is expected that students will wish to enroll in further PE as enjoyment and intentions to enroll have been linked previously (e.g. Sulz et al., 2010; Lodewyk & Pybus, 2013). Third, is self-efficacy higher after students have experienced a unit taught through TGfU? Gubacs-Collins (2007) and Harrison et al.'s (2004) studies found that self-efficacy in university students increased with TGfU intervention; however, studies on the effects of TGfU on secondary students have not been performed. Fourth, what

aspects of TGfU do students like and dislike? Finally, the relationships between TGfU and enjoyment, intentions to enroll, and self-efficacy will be explored with subsamples of students who report initially high or initially low responses on each of these items. If significant findings are present, qualitative data will be examined for the subsample to further understand the potential causes of students' responses.

Chapter 2-Literature Review

Theoretical Background

Social Cognitive Theory suggests that all human behaviour and functioning is a result of the dynamic, reciprocal interaction between personal factors (e.g. cognitions, emotions and beliefs), behaviours, and environmental influences (e.g. social relationships, or physical features of a location) (Bandura, 1989; Bandura, 1991; Oppong, 2014). This rejects the notion that only one of the aforementioned factors influences human behaviour on its own, separate from the influence of the others. Humans are not simply passive beings who have change solely effected upon them by the environment, rather they are agents of change; learning, growing, adapting through their experiences and exercising change on the environment itself, all of this is accomplished through intentionality, forethought, self-reactiveness, and self-reflection (Bandura, 2001; Bandura, 1991).

Bandura (1971) suggests that people will learn through direct experience or through observing others performing a behaviour – he refers to the latter as vicarious experience (Bandura, 1989). Through attempting to deal with a problem, individuals learn about themselves and their capabilities, and they learn about the environment they are in regardless of their success in dealing with the problem, eventually the individual will learn what behaviours are most effective and will opt for these when faced with similar issues, while avoiding the ineffective behaviours (Bandura, 1971). The individual's expectations for what might occur due to the performance of a behaviour becomes important in both teaching behaviours and motivating the individual. For example, if an individual believes that a behaviour will yield a positive, desirable result,

then they will be more likely to perform said behaviour, where as if performance of a behaviour is believed to result in an undesirable outcome (e.g. being yelled at) the individual will likely avoid performance of this behaviour.

Goals are another important component of Social Cognitive Theory, as they allow individuals to plan behaviour (Young, Plotnikoff, Collins, Callister, & Morgan, 2014), which they will be intentional in working towards thus allowing for agency (Bandura, 2001). Goals can be both distal, in that they plan for a far off event or desired outcome (e.g. child setting goal to play a sport at the professional level), or goals can be proximal which are enacted upon now, or very soon (e.g. packing an apple as a snack to eat healthier during the day) (Bandura, 1989; Bandura, 1991; Young et al., 2014). Not only are goals created personally but they may also be set as a collective group. As groups work together producing change on their environment, and on the members of the group, agency becomes a collective feature (Bandura, 2001 cites Bandura, 1997). Achievements of the goals as a group are not simply due to the shared abilities and cognitions of the group, but interaction and coordination of these abilities, cognitions, and individuals (Bandura, 2001). These interactions will not only shape the group, but also shape the individual, whether poorly or for the better. An individual's beliefs in their self and in their capability influences their learning and the behaviours they will choose when faced with a situation. This belief in one's self encompasses the concepts of agency, which has briefly been discussed. This belief also includes the concept of self-efficacy, the belief in one's ability to succeed at a particular task (Heydari, Dashtgard, Emami Moghadam, 2014). The concept of self-efficacy will be discussed in greater detail later.

In their review, Young and colleagues (2014) found that self-efficacy was reported as having a significant direct effect on physical activity behaviour, and this construct of social cognitive theory was consistently, positively linked to physical activity while the other constructs (e.g. expectations) were more variable in their link to activity behaviours. It was also reported that social cognitive theory explained approximately one third of the variance in physical activity behaviours (Young et al., 2014), which is deemed adequate for the using a theory to design an intervention (Baranowski et al., cited by Young et al., 2014). Self-efficacy has also been linked to youth's intentions to follow rules, and more strongly linked to this behaviour than perceived control which is a consistent finding with previous research (Broadhead-Fearn & White, 2006). Self-efficacy is not the only construct of social cognitive theory to predict behaviours, but expectations also influence behaviour intentions; for instance Lin and Chiou (2010) explain that outcome expectancies are critical in predicting undergraduate student's intentions to take an optional English test. Bandura's social cognitive theory can be a useful tool in predicting behaviours, as has been demonstrated in a variety of settings, with a variety of behaviours (e.g. Zimmerman's research on learning; Armitage & Conner's research on diet) and with participants of differing demographics (Lin & Chiou, 2010), making it a relevant theory to ground this research.

Teaching Games for Understanding

History of TGfU. Teaching Games for Understanding was first introduce in 1982 by David Bunker and Rod Thorpe (Holt et al., 2002; Griffin & Patton, 2005; Light, 2002a; Oslin & Mitchell, 2006) at Loughborough University in England (Mandigo et al., 2007; Kirk & MacPhail, 2002). Later, Bunker and Thorpe (1986) published their

curriculum model which offered a fuller, more in-depth explanation and description of

the model, which outlined their justifications for the creation of the model, along with

their instructions of how it can best be adopted and implemented to effect change. As

physical educators in England, Bunker and Thorpe observed many issues with the more

traditional, technique focused instruction which students were receiving (Griffin &

Patton, 2005); in traditional instruction the focus was on performance which left many

students achieving minimal success; this form of instruction also created some

individuals who possessed the skills used in games, however their skills were inflexible

and they would struggle with making decisions, often relying upon an instructor to aid

them in the decision making process (or worse, make the decisions on their behalf);

finally, the observations showed that most students would know relatively little about

games when they left school (Bunker & Thorpe, 1986; Werner, Thorpe, & Bunker, 1996;

Holt et al., 2002; Hopper, 2002; Mandigo et al., 2007; Hopper, 2011). Based on these

observations and with Worthington and Wigmore's suggestion of using small-sided

games, the influence of Wade's work on the principles of play, Morris's belief that games

could serve educational purposes, and Mauldon and Redfern's framework of skill

development through game play, Bunker and Thorpe developed their new instructional

model, Teaching Games for Understanding (TGfU) (Griffin & Patton, 2005; Oslin &

Mitchell, 2006; Hopper, 2011).

TGfU is a learner-centred (Griffin & Butler, 2005), game-centred approach to

teaching physical education (PE) and sport which can be used both in the school setting

and in the extracurricular sport setting (Harvey & Jarrett, 2014). This model was

developed in the aim of having learners develop understanding of how the game is

played, along with the notion that games are both enjoyable and engaging (Bunker & Thorpe, 1986), in an attempt to amend some of the issues Bunker and Thorpe had observed in their students. As a learner-centred approach to teaching games (Griffin & Butler, 2005), TGfU places the emphasis on the students/players who are participating in the games ensuring that their needs are met, both instructionally and setting up an appropriate environment through modifying the original, formal, adult version of a game to one which is more appropriate for children to participate in (Guadagnoli & Lee, 2004; Sproule et al., 2011; Light, 2002a); in essence the learner is placed at the very heart of the model (Bunker & Thorpe, 1986).

In addition to the learner being placed at the heart of the model, the learner is given a new role in the learning process as they are afforded more responsibility, becoming more active and involved in the learning process making TGfU a constructivist approach to teaching/learning (Griffin & Patton, 2005; Richard & Wallian, 2005; Dyson, 2005; Light, 2002a; Oslin & Mitchell, 2006). In a constructivist approach the learners previous knowledge is utilized as a starting point (Turner, 2005; Lemlech, 1998), regardless of the vast differences in baseline knowledge and experience (Butler & McCahan, 2005), to help them build new knowledge by actively engaging with the material through exploration, experimentation and discussions with others to draw new conclusions and create new knowledge in themselves (Lemlech, 1998; Richard & Wallian, 2005). In order for learning to occur, students must be actively engaged with the material and challenge their current understanding, using higher order cognitive skills before applying their new knowledge and skills in a unique situation (Richard & Wallian, 2005). TGfU offers an opportunity for this form of learning as it shifts the role of the

instructor to facilitator, placing more responsibility and emphasis on the students to create

knowledge for themselves and their peers (Dyson, 2005). The teacher is not removed

from TGfU instruction, however the role of the learner becomes more important than in a

traditional approach to learning as they must create the knowledge, not simply receive it

from the teacher (Light, 2002a).

   The opportunities facilitated by the teacher can fall into one of two categories of

constructivism, either an "empiricist-oriented constructivists" (Cobb, 1986, p. 302) where

knowledge exists apart from the students' thoughts (Cobb, 1986) students are guided to

discover a particular solution to the problem (in the case of TGfU, a particular tactical

response to a situation within a game) (Richard & Wallian, 2005), or a more radical view

where all knowledge is created (Cobb, 1986), which asks individuals to come up with

personal solutions to a particular problem; in the case of the latter there are many

possible, 'correct' solutions to the problem and students are able to develop one which

suits them best (Richard & Wallian, 2005). An example of the empiricist-constructivist

approach might be if the teacher were to ask students to develop a tactic to spread the

defenders out; while the radical constructivist approach might ask students how they

could get open while playing a game. Regardless of the approach, empiricist-

constructivist or radical constructivist, constructivist learning aims at developing learners

who are autonomous (Richard & Wallian, 2005). Playing an active role in the learning

process allows students to not only be more engaged and involved in their learning, but it

also allows for the creation of a deeper understanding as students must engage and

experiment with the material, seeking their own solutions (Butler, 1997; Butler &

McCahan, 2005; Light, 2002a).

More specifically than just constructivism, TGfU can be thought of to align with Situated Learning Theory (Kirk & MacPhail, 2002; Richard & Wallian, 2005; Dyson, 2005) through which theorists propose that learning occurs when the learner is an active participant within the socio-cultural learning environment (Kirk & MacPhail, 2002; Richard & Wallian, 2005; Pope, 2005), it is through this active engagement that an individual can adapt knowledge to suit their needs (Kirk, Brooker & Braiuka, 2000) and extend their prior knowledge (Lemlech, 1998; Kirk & MacPhail, 2002) to apply at a later time (Kirshner & Whitson, 1998). The social, physical and cultural contexts cannot be removed from learning (Kirk & MacPhail, 2002), which might include the interactions with peers, the game itself, the environment or individual conceptions of sport (Kirk et al., 2000; Kirk & MacPhail, 2002). TGfU situates learning within environments which are constantly changing, placing students into situations where they must adapt, building upon their prior knowledge (e.g. of game rules) to create new knowledge and learning (Hopper, 2011; Kirk & MacPhail, 2002). While this research is grounded in social cognitive theory, it is important to recognize the active, social role that the individual plays in the process of learning during TGfU, as such, TGfU follows both the constructivist and situated theories of learning.

After the creation of TGfU by Bunker and Thorpe, other game-centred approaches to teaching games began to be developed to address the issues which Bunker and Thorpe had stated as being their reasoning for creating TGfU (Harvey & Jarrett, 2014; Griffin & Patton, 2005l; Oslin & Mitchell, 2006). Griffin, Mitchell and Oslin simplified the six-step model of TGfU (which will be explained later) into a model containing only three stages, called Tactical Games (Griffin & Patton, 2005; Oslin &

Mitchell, 2006; Dyson, Griffin & Hastie, 2004, Harvey & Jarrett, 2014, Kirk & MacPhail, 2002; Hopper, 2011); "modified game, development of tactical awareness and decision making through questioning, and development of skill" (Griffin & Patton, 2005, p. 7); along with this new model they stressed the need for an authentic assessment method, called the Game Performance Assessment Instrument. A thematic approach to playing games where game of similar intent are learned and played with each other as a means of learning more games, at a higher level, and having a better understanding of games was also suggested along with the new model (Griffin & Patton, 2005). In the Game Sense model, proposed by Charlesworth, TGfU is adapted to be used in more of a sport setting (outside of physical education) where techniques are developed in the midst of a game context to create a skillful individual (Stolz & Pill, 2014; Kirk & MacPhail, 2002; Hopper, 2011). Similar to TGfU and the Game Sense model, Play Practice, proposed by Launder, situates the learning of skills within (modified) games which direct learners to skills that they need to develop (Stolz & Pill, 2014; Hopper, 2011). Other game-centred approaches such as the Invasion Games Competency Model, Tactical Decision Learning Model (Stolz & Pill, 2014), Sport Education and Cooperative Learning (Dyson, Griffin and Hastie, 2004) have also been proposed. The creation of all of these other game-centred approaches to teaching games gives teachers options when it comes to how they facilitate student learning, however for the purposes of this research the original, six-step (Bunker & Thorpe, 1986), model will be utilized as it provided the inspiration and basis for all other models which followed.

Thematic Games Categories. There is a large focus in physical education being placed on games (Werner et al., 1996; Mandigo & Holt, 2004), as opposed to fitness or

health; however, does games instruction result in deep student understanding of the games or is it just superficial instruction of the game? In order to address this issue, Werner, Bunker and Thorpe established a classification system in the 1980s which would aid teachers in teaching important components of all the games (that were appropriate for their students, or within their ability to teach) as opposed to the superficial aspects of as many games as time permitted (Butler, 1997). In this classification system, games are categorized based on their ultimate goal (Butler, 1997; Butler & McCahan, 2005; Mandigo et al., 2007; Mandigo & Holt, 2004; Oslin & Mitchell, 2006). There are four games categories; *Target, Striking and Fielding, Net-Wall,* and *Territorial*; which are used to group the games (Werner et al., 1996; Butler, 1997; Mandigo & Holt, 2004; Butler & McCahan, 2005; Mandigo et al., 2007; Memmert & Koenig, 2007; Oslin & Mitchell, 2006); within any one of the categories all of the games contain similar structure and intent (Mandigo, et al., 2007; Butler, 1997; Butler & McCahan, 2005; Mandigo & Holt, 2004). This system of grouping allows for teachers to display similar, albeit different, games to their students allowing for skill and tactics development, along with the recognition of the similarities/differences between games; ultimately resulting in students understanding of how various skills and tactics can be applied in a variety of games (Mandigo et al., 2007; Mandigo & Holt, 2004; Butler, 1997). Memmert and Koenig (2007) cite a variety of research (e.g. Hill; Baker, Côté, & Abernethy; Côté, Baker & Abernethy; Côté) which found that by learning through a games category, rather than a maintaining a specific game focus, there is no negative effect on the skill development or games ability of an individual, suggesting that games category teaching can be an effective means to teaching games to children and youth.

The simplest of the games categories is *Target* games, due to the relatively closed environment where these games are played and the simple rules associated with the games (Butler & McCahan, 2005; Butler, 1997). These games all contain an ultimate goal of getting your object to be closer to the target than your opponent's object, sometimes in fewer attempts (Mandigo et al., 2007; Butler, 1997). Games which fall under this category might include archery, curling, golf or any other number of games (Werner, et al., 1996; Butler, 1997; Butler & McCahan, 2005; Stolz & Pill, 2014).

Games in the next category, *Striking and Fielding*, are slightly more complicated than target games due to the more open nature of the game (Butler & McCahan, 2005). In striking and fielding games the goal is to score more runs than your opponent before your team gets 'out', generally accomplished by striking the ball into space away from fielders (Mandigo, et al., 2007; Butler, 1997). Games such as baseball, cricket and rounders would fall into this category (Werner et al., 1996; Butler, 1997; Butler & McCahan, 2005; Mandigo et al., 2007; Stolz & Pill, 2014).

Target games and striking/fielding games contain the skills and concepts which will be useful for the next most complicated classification, and as such should be taught prior to *Net/Wall* games (Butler & McCahan, 2005). In order to score more points than the opponent, participants in net/wall games try to make the ball land inbounds on their opponent's side of the net or after hitting the wall (Mandigo et al., 2007; Butler, 1997). Games like badminton, pickleball, squash and jai alai would fall into this category (Butler & McCahan, 2005; Butler, 1997; Werner et al., 1996; Stolz & Pill, 2014).

The most challenging games fall into the category of *Territorial/Invasion* games as these games contain an open environment where participants from both teams are

interacting in very close proximity to one another (Butler & McCahan, 2005; Butler, 1997). The objective of territorial games is to carry the object into the opponent's zone and score, which may be done by crossing into a scoring zone or getting object (e.g. ball) into a net, while also protecting your own space (Mandigo et al., 2007; Butler, 1997) This games category contains games which are most common to students such as football, soccer, hockey (ice, ball or field), or games which might be less familiar (e.g., netball, Korfball, rugby) (Werner et al., 1996; Butler & McCahan, 2005; Butler, 1997; Stolz & Pill, 2014). It is important that these games are only performed when students are developmentally capable of attending to the demands which the game place upon them, or the game will break down; for instance when young children (ages 7-8) attempt to play soccer the participants generally group around the ball rather than spreading out to be in a tactically advantageous position (due to their inability to understand the tactics of the game) (Butler & McCahan, 2005; Butler, 1997).

Stages of TGfU. The TGfU model follows a cyclic, six-step process which includes playing the game, recognizing and understanding useful tactics, development of skills and decision making abilities (Bunker & Thorpe, 1986; Werner et al., 1996; Light, 2002a). This progression is designed to follow the evolution of learning any game (Werner et al., 1996) as students are provided information at the most opportune and appropriate times to aid them in learning (Hopper, 2011), and is counter to how games are traditionally taught (Mandigo et al., 2007). The steps, in order, as suggested by Bunker and Thorpe in 1982 are (1) Game, (2) Game Appreciation, (3) Tactical Awareness, (4) Making Appropriate Decisions, (5) Skill Execution, and (6) Performance (Bunker & Thorpe,

1986; Werner et al., 1996; Griffin & Patton, 2005; Holt et al., 2002; Kirk & MacPhail, 2002; Mandigo et al., 2007).

The first stage in the TGfU progression is *Game* (Bunker & Thorpe, 1986) in which students are initially introduced to a modified version of a formal game (Holt et al., 2002; Griffin & Patton, 2005; Mandigo et al., 2007). This modification is not to suggest that the students will never play a more formal version of the game, however at this point in their development the students are likely unable to participate or appreciate participation in the formal, adult version of the game (Bunker & Thorpe, 1986), this modification also provides accommodation to "meet the developmental need of the learner" (Griffin & Patton, 2005, p. 2). Imagine asking a group of 9 year old children to play an 11 vs. 11 soccer game on a regulation sized field; not only is that too many children attempting to participate, but the size of the playing area would not be appropriate for their developmental age. Or, consider a group of 13 year olds participating in a formal version of ice hockey for the first time, with regular sized sticks, pucks, nets, and playing surface, all of which could be too large for them to appropriately handle. The formal game would also include students engaging in physical contact during play when the focus should be on developing an appreciation for participation, and as such might turn players away from the game, or cause bodily harm due to their development unpreparedness for this aspect of the game.

By beginning with playing the game, learners are immersed in the game and are exposed to the unique problems which are associated with the game, recognizing them and potentially trying to develop their own solutions within the context of the play (Werner et al., 1996). This initial game also gives context to students as they later begin

to recognize tactics and develop skills necessary for game play (Mandigo et al., 2007). As students later begin to learn about the skills, they will have an understanding of why they are developing the skill and when they might be useful to use during the game, rather than if they had been developed in isolation and a context with which to connect their learning, thus situating their learning (Kirk et al., 2000; Light, 2002a). This stage is important in the development of understanding for the game, and exposing the students to all the abilities, skills and tactics which need to be developed (Werner et al., 1996; Mandigo et al., 2007).

The *Game Appreciation* stage comes second, serving the purpose of having students start to develop an understanding of the rules of the game (Bunker & Thorpe, 1986; Griffin & Patton, 2005). Not only should this stage create a declarative understanding of the rules, but learners should begin to understand and appreciate the role that rules play in informing the skills, tactics and strategies which will be implemented during gameplay (Werner et al., 1996; Holt et al., 2002; Mandigo et al., 2007). Through this stage, students should begin to recognize that a change in the rules or parameters set by the game, e.g. changing the height of the net or the length of the court, would need to result in an altered strategy to achieve success in the game; students achieve this by drawing on higher order thinking skills (Richard & Wallian, 2005; Butler & McCahan, 2005; Stolz & Pill, 2014) and making the learner more active in the learning process (Butler, 1997; Griffin & Patton, 2005).

Following the game appreciation stage is *Tactical Awareness* which represents a stage where students should start to develop an understanding of various tactics which can be employed within the parameters of the game to give them an edge on their

opponent (Bunker & Thorpe, 1986; Holt et al., 2002; Griffin & Patton, 2005). Both offensive and defensive tactics need to be considered during this phase of the model, with the most common tactics being those which help offensive players create space (to optimize scoring opportunities) and those which will help defence to deny space (to limit scoring opportunities) (Bunker & Thorpe, 1986; Griffin & Patton, 2005). It is important for students to develop a broad range of tactics to be implemented in games, as this will provide them with flexibility; tactics might need to change during the game to reflect the specific situation (Bunker & Thorpe, 1986). Mandigo et al. (2007) suggest that through using game-like situations to help students develop tactical awareness, the students will be able to understand what can be done within certain situations thus "gaining an advantage over their opponents" (p. 16). Not only do skills have the potential to transfer between games (e.g. catching a ball is implemented in countless games), but tactics also have the potential to transfer between games (e.g. placing the object away from defenders might be used in baseball or cricket, but could also be used in soccer as a leading pass, or playing a 'free-ball' in volleyball) (Bunker & Thorpe, cited in Werner et al., 1996).

Following the tactical awareness stage is the *Making Appropriate Decisions* stage where students begin to consider what they must do in certain situations and how it should be done (e.g. Bunker & Thorpe, 1986). Bunker and Thorpe (1986) suggest that this stage is important as individuals who are skilled games players will be able to make decisions during game play very quickly; due to the fast pace of most games this becomes a necessary ability in order to achieve success, waiting too long to make a decision will result in an opponent gaining an advantage over you and may be costly. In this stage, students utilize the information they have been collecting through the other stages,

namely the game appreciation and tactical awareness stages, to discern when it would be most appropriate to perform certain actions or employ certain tactics within the game (Holt et al., 2002; Mandigo et al., 2007). Pope (2005) recommends that this stage, while traditionally taught with a focus on cognitions and cognitive processes, should also include the affective aspect of the individual. He (2005) suggests that emotions can play a role in the process of making decisions; learners need to recognize that their emotions can impair their decision making, so that during game play they can try to limit the impairment that emotions might cause on decision making.

The constantly changing environment which games present requires individuals to be able to recognize what needs to be done, with each situation representing a unique scenario with unique influences on the decision to be made (Bunker & Thorpe, 1986; Holt et al., 2002). Players need to collect all of the sensory information before them during game play, determine what cues are relevant and important, and assess potential outcomes (Bunker & Thorpe, 1986; Holt et al., 2002) as this will play an important role in the decision making process. Once students recognize what needs to be done (for instance, in rugby they recognize there is no one to pass to and there are defenders in front of them so kicking the ball might be their best option) they must then determine how to enact their decision, more specifically, what is the best skill for them to use in this situation (Bunker & Thorpe, 1986). In the example of the rugby player, they might kick the ball well over the heads of the defenders to alleviate the pressure the defence is placing on them. It is important to note that the steps of what to do and how to do it will occur almost simultaneously in more skilled players, as a gap in the recognition and response can be costly.

At this point in their learning, students will have begun to recognize tactics which can lead to successful games performance, and have developed the ability of recognizing cues in games to respond to a variety of situations, making the stage of *Skill Execution* the next logical stage (e.g. Bunker & Thorpe, 1986; Werner et al., 1996). During the skill execution stage, students develop the skills that will be necessary to make them effective games players (Bunker & Thorpe, 1986; Holt et al., 2002), but only once they are ready to develop the skills and recognize the need for the skills to be refined (Werner et al., 1996; Mandigo et al., 2007). At this point in their learning, students should understand the importance of the particular game, and where/when it might be useful within the game context (Mandigo et al., 2007).

Similar to the other stages, Bunker and Thorpe (1986) stress that despite the movements being taught as the instructor sees fit, the needs of the learners must continue to be the central focus; learners will only understand the skills at this point within the context of the game they have seen, and they may possess limitations (e.g. strength) which will keep them from having the result of their skill execution being the same as an adult (e.g. while using correct form, a child might not be able to score a basketball from the three-point line). It is through these limitations which assessment of the students skill execution must be done, with more of an emphasis on process rather than product (Holt et al., 2002). This stage will teach the learners how to perform the skill itself, however it is important to recognize that this is not performance, as during game play technique might need to be more flexible to suit the particular situation (e.g. 'digging' the ball in volleyball where one must dive will look very different from performing the forearm pass

on two feet); the teaching and learning which occurs during this stage should be done with the context of the game in mind (Griffin & Patton, 2005).

All of the other stages culminate in the final *Game Performance* stage (Bunker & Thorpe, 1986). This culminating stage is a chance for the students to apply everything that they have learned thus far within the context of a game which is a more advanced version of the formal game that has been the focus of the lesson (Mandigo et al., 2007; Holt et al., 2002). Through participating in the performance stage, learners are able to demonstrate their learning (Bunker & Thorpe, 1986; Holt et al., 2002), and the instructor can visibly assess their learning, providing feedback when necessary and appropriate to do so (Mandigo et al., 2007; Holt et al., 2002). Assessments of performance must be based upon the goals of the game, lesson and unit which learning occurred (Griffin & Patton, 2005), and will result in the determination of whether a participant is to be deemed a successful and competent player (Bunker & Thorpe, 1986; Griffin & Patton, 2005). This final stage is not an end, but can lead to participation in a new game which demonstrates new tactical problems for participants to solve, thus continuing their learning in the game or game category within which they are participating.

Important Pedagogical Principles for TGfU. Four pedagogical principles were created by Bunker & Thorpe to accompany and supplement the teaching of games through the advent of their new instructional model (Griffin & Patton, 2005; Holt et al., 2002; Oslin & Mitchell, 2006; Stolz & Pill, 2014). By using these pedagogical principles, instructors can enhance their students' ability to fully develop through the TGfU model (Mandigo et al., 2007). *Sampling* is the first of these pedagogical principles, which suggests that a variety of games should be selected to help students begin to recognize the

similarities between games (Holt et al., 2002; Mandigo et al., 2007; Griffin & Patton, 2005; Stolz & Pill, 2014). By utilizing many different games, typically within one games category, students are more likely to be exposed to situations in which they might recognize the transferability of tactics and skills between games, helping make them more proficient game players (Griffin & Patton, 2005; Mandigo et al., 2007), this recognition may come for games which were previously believed to be dissimilar (Holt et al., 2002).

TGfU employs modified games to teach students about the formal games, these modifications can come about through the second and third pedagogical principles of *representation*, and *exaggeration* (Holt et al., 2002). Through the *representation* principle, the formal game is broken down into a developmentally appropriate game or scenario which still maintains the tactics present in the formal game (Mandigo et al., 2007; Griffin & Patton, 2005; Stolz & Pill, 2014; Holt et al., 2002; Hopper, 2011). The adult version of the game is usually beyond the grasp of many students, so through *representation* the tactical problems can be presented in a manner which still resembles the game but is appropriate for the students who are participating (Holt et al., 2002). These modified games can provide an opportunity for *exaggeration* to be employed, whereby students can be focused on a particular tactic or problem within the game (Mandigo et al., 2007; Holt et al., 2002; Hopper, 2011) through the modification of rules (Griffin & Patton, 2005), equipment or playing area (Stolz & Pill, 2014). For instance, by modifying the number of dribbles one can take during a basketball game, the necessity of players finding open space becomes highlighted. Alternatively, by modifying the size of the badminton court to be long and narrow, it draws players' attention to the benefits of playing drop shots and clears (Mandigo et al., 2007). This exaggeration technique can

help to focus the lesson on a particular tactic which instructors deem important or

relevant for their students (Mandigo et al., 2007; Holt et al., 2002).

The fourth principle which Bunker and Thorpe suggested was that of *Tactical*

Complexity, whereby students developmental needs are met through the games chosen

(Griffin & Patton, 2005; Mandigo et al., 2007). Some participants will not be capable of

handling the tactical demands of certain games categories, by employing this pedagogical

principle, instructors might choose an appropriate games category for their learners, or

modify the games in a way which is appropriate for their learners (Holt et al., Griffin &

Patton, 2005; Mandigo et al., 2007). As was previously discussed, the progression of

games categories from least complex to most complex is Target, Striking/Fielding,

Net/Wall, and Territorial. As students develop an understanding for games, and the

ability to discern tactics and implement strategies, instructors can modify the complexity

of the tasks/games to reflect the needs of their learners, because with improved skill, the

expectations for learner's performance can be higher and more challenging (Guadagnoli

& Lee, 2004; Sproule et al., 2011).

An additional pedagogical principal, *adaptation*, is suggested by Hopper (2011),

as an extension to tactical complexity. Adaptation refers to the increasing challenge to the

players as they achieve success; so every time a badminton player scores a point, the

court that they must defend becomes larger, increasing the demands upon them,

challenging them more while still maintaining the ability to interact with an individual of

a differing ability (Hopper, 2011). Shen's (2010) findings also support Hopper's notion

of adaptation, as physical educators need to acknowledge the individual differences

present in their classes, giving them reasons to engage in activities. By offering choice in

the activities they perform and the difficulty of the task (i.e. adaptation), educators might be able to better support their students' individual needs, promoting learning and potential future engagement in physical activity (Shen 2010).

Stolz and Pill (2014) also suggest an additional pedagogical principle, that of *questioning*. By asking students questions, getting them to think and problem solve, teachers get their students to become active in the creation of knowledge, and active in the learning process. This naturally occurs throughout the TGfU model, however it is important for educators to become effective at asking question; asking students the necessary questions at appropriate times to draw out their knowledge and getting them to think.

Holistic View of the Child and TGfU

People are made up of more than just physical bodies, but are also intellectual and social beings, making it incredibly important that educational experiences meet the needs of all these aspects of their being (Wall & Murray, 1990; Light & Fawns, 2002; Mandigo & Holt, 2004; Miller 2010; Slade & Griffith, 2013; Johnson & Shebanie McCallen, 2014). Noddings (2005) argues that the development of the whole child should be a major concern of the schools, that simply focusing on reading and writing ability is to neglect the student's development. The whole child is made up of the psychomotor (physical), affective and cognitive domains (Wall & Murray, 1990), or as Ghandi describes the "head, hand, and heart" (Miller, 2010, p. 8); each of these domains are present and inseparable in every individual, however, education often treats each domain separately, focusing on teaching each domain on its own (Miller, 2010; Kretchmar, 1994; Noddings, 2005; Wall & Murray, 1990; Light, 2002a).

Physical education is no different, as it has been viewed as a means of "[e]ducation of the physical" (p. 70), meeting the physical needs of students, improving their health and teaching them physical skills (Kretchmar, 1994). Williams alternatively argued for "[e]ducation through the physical" (Kretchmar, 1994, p. 70), that physical activity and sport could be used to teach students lessons in the affective domain. Both of these perspectives hold a narrow view (Kretchmar, 1994; Light & Fawn, 2002; Light, 2002a), limiting the benefits of physical education to only one or two domains at the most. Physical education presents a unique opportunity to teach the whole child (Wall & Murray, 1990), reaching all three domains in one session. What other subjects in schools can consistently offer this kind of opportunity?

While physical education has the possibility to reach all the domains, it is up to the instructor to develop enriching experiences which develop the whole child, without neglecting any of the domains. TGfU integrates the physical, cognitive and affective domains, keeping all three inseparable, providing an enriched experience which can develop the whole child (Pope, 2005; Light, 2002a). It is important that TGfU, as Pope (2005) states, "[is] not reduced to tactical or cognitive competence" (p. 283), as it has the potential to develop more than just thinking players, but also those who are capable of doing and of feeling. Despite the desire to create players who have more knowledge of games, a worthy albeit limiting goal, "[p]erhaps…we must consider a holistic notion of understanding; how it is developed, promoted and manifested through cognitive, movement or behavioural and affective forms" (Pope, 2005, p. 283), aiming for a more imperative, potentially lofty, goal of developing the whole child.

Psychomotor (physical) domain. John Miller (2010) stresses that in education "we must not ignore the body" (p. 9); while he does not claim that we should meet the physical needs of the individual through physical education, and rather suggests that all classes need to develop the physical aspect of the student. "Physical education…" as Wall and Murray (1990) describe, "…promotes the acquisition of physical skills and increased abilities" (p.4) and provides physical development opportunities for all students (Mandigo & Holt, 2004), this poises physical education as a viable option to meet the needs of the body. If physical education provides this unique opportunity which Wall and Murray describe, what role can the Teaching Games for Understanding instructional model play in the development of the physical domain of the individual?

TGfU and the psychomotor (physical) domain. The various physical education curricula across Canada have been designed with the ultimate goal of having students develop physical literacy (Mandigo et al., 2007), physical literacy being something which TGfU is effective at fostering (Mandigo & Holt, 2004; Mandigo et al., 2007). Whitehead (2001), describes physical literacy as the ability to move "with poise, economy and confidence in a wider variety of physically challenging situations" (p. 131), and that the physically literate individual will be "perceptive in 'reading' all aspects of the physical environment, anticipating movement needs or possibilities and responding appropriately to these, with intelligence and imagination" (p. 131). Physical literacy is a holistic concept (Whitehead, 2001); however, it is worth discussing with a focus on the psychomotor domain as one must possess the necessary skills in order to move in a way that Whitehead describes.

One might imagine that an approach which is focused on developing the

techniques and technical aspects of skills, such as that traditionally employed in physical

education classes, would result in higher performance of these techniques when it comes

time to apply them in a game; however as Bunker and Thorpe noted, one of the reasons

for developing TGfU was that students were not developing the skills needed to play

games, or were developing very rigid, inflexible techniques (Bunker & Thorpe, 1986;

Werner et al., 1996; Hopper, 2002). The traditional skill development does not always

lead to the lasting development of skills (Werner et al., 1996) as students are often

passive through the learning process (Méndez-Giménez, Valero-Valenzuela, & Casey,

2010) and the traditional approach is more interested in the execution of the technique

while TGfU is focused on students learning the skill within its used context (Stolz & Pill,

2014). Various studies have found that using a tactical approach, such as TGfU, has the

potential to not only develop the skills, but create performers who are capable of

implementing the skills at the appropriate times (make good decisions); the latter will be

explained more in the cognitive section of this chapter.

Turner and Martinek (1992; 1999) performed a study which examined the

differences in field hockey skill development between students taught through technical

and TGfU approaches. Turner and Martinek (1999) cite studies (e.g. Lawton; Turner;

Mitchell et al.) which found that skill performance between tactical and technical

interventions were relatively similar across a variety of games; with all studies showing

some improvement in skill across the intervention. An approach which is designed to

develop skills through the recognition and development of tactical awareness, does not

differ from one which aims at creating proficient, technically correct skill performance,

signifying that individuals learned the necessary skills and were able to perform them appropriately. Students in Turner and Martinek's (1999) study who participated in the TGfU intervention possessed more control of the ball during game play than those with technical skill development, as well as better passing execution. Additionally, students in both intervention groups performed similarly on skills tests which were performed outside of the game context. Conversely, students in their (1992) demonstrated no significant differences in game play ability; similarly students in both tactical and technical groups improved their skill execution, in terms of speed of execution, from pre- to post-test. These results suggest that TGfU is a viable option to help students develop physical skills needed in games

In addition to on-the-ball skills, TGfU can develop off-the-ball skills. Both novice players and more experienced players in a high school soccer program improved in their ability to play defence off-the-ball (e.g. covering space or helping teammates) in soccer games when practices utilized a TGfU approach to teach the players the skills; performance improved more for the novices who were generally unfamiliar with the skills, than the experienced players, however the latter did also see some improvements in skills (Harvey, Cushion, Wegis, & Massa-Gonzalez, 2010). These findings suggest that TGfU is a viable option to develop off-the-ball skills which players need to utilize in games, and are potentially under-developed in many participants, particularly through a more traditional, skills-focused approach.

After three weeks and after six weeks, in two different studies performed by French, Werner, Rink, Taylor, and Hussey (1996a, 1996b), students taught through a technical approach and students taught through a tactical approach demonstrated

improved skill execution during game play, agreeing with the findings of Gray and Sproule (2011) who found on the ball skill execution to be similar between groups after intervention. French et al. (1996a; 1996b) suggest that the tactical group saw skill improvement due to the connection between the tactics and skills in badminton, along with the tactical instruction using games which forced students to possess and use a variety of skills (e.g. playing a badminton game where points were only scored if the birdie landed behind the opponent required the development of both drop shot and clearing attacks).

In the three week study, students taught through a combination of tactical and skill instruction method – which resembles TGfU as students should learn tactics, and techniques to complete these tactics through skill execution as students are ready for them (Memmert & Koenig, 2007; Mandigo et al., 2007; Kirk, 2005; Stolz & Pill, 2014) – also saw improved skill execution during game play (French et al., 1996a), however in the six week study the combined group had difficulty learning both skills and tactics associated with the game (badminton) (French et al., 1996b). In the six week study a modified TGfU format was utilized where students were taught both tactics and skills as instructors saw fit, rather than when the students saw the need for the skills to be developed, because of this combination and method students were overloaded with information, and did not receive enough time to process and consolidate the information from both instructional aspects, likely leading to the decreased playing ability (French et al., 1996b). Had French and colleagues followed a true TGfU format, it is likely that students in the combined group would have developed the techniques similarly to those in the other interventions,

as was seen in Turner and Martinek's study (1999), because TGfU situates skills within

an authentic game setting (Stolz & Pill, 2014).

Cognitive domain. The cognitive domain deals with the thoughts and thinking of

the individual. It includes the ability to have content knowledge, to apply learning in new

situations, to imagine, to perceive situations and make decisions about these perceptions,

among other abilities (Wall & Murray, 1990). Physical education must incorporate more

than just the physical needs of the body, thoughtfulness during movement is critical, after

all, the subject is call physical *education*, implying diffusion and application of

knowledge (Wall & Murray, 1990; Richard & Wallian, 2005). While playing games,

skills do need to be applied making the physical capability of performing skills important,

however decisions about the skill also have to be made as well; what skill to use, when to

use it, how it should be done; making the performance of skills also a cognitive process

(Gray & Sproule, 2011) and the cognitive development of the learner within physical

education an important objective. Many still believe that physical education's goal is to

improve the fitness levels of students, this goal is too limiting as the subject area has

potential to develop more than just physical fit individuals (Corbin, 2002). While

physical education needs to empower people to be physically active for the remainder of

their lives, learning is an equally important outcome, and learning will help to achieve the

goal of creating lifelong, physically active people (Corbin, 2002).

TGfU and the cognitive domain. Games provide a unique opportunity in physical

education to teach students, as they often involve continuous problem solving (Light,

2002a). Light and Fawns (2003) argue that games provide an avenue for learning,

unfortunately most games teaching focuses on the physical to the neglect of this cognitive

development (Butler & McCahan, 2005; Light, 2002a). Teaching Games for Understanding presents a method for games instruction which helps students to develop higher order thinking skills such as reflection (Gréhaigne, Caty, & Godbout, 2010; Richard & Wallian, 2005), critical thinking, self-regulation (Richard & Wallian, 2005; Sheppard & Mandigo, 2009; Rovegno, 2010), creative thinking (Butler & McCahan, 2005; Rovegno, 2010), problem solving, and decision making (Butler & McCahan, 2005; Turner, 2005; Sheppard & Mandigo, 2009; Rovegno, 2010), thus shifting the focus of instruction from memorization of procedures to developing flexible thinkers. In addition to developing these high order thinking skills, TGfU helps students to develop a deeper understanding of how to play games, an understanding which can be applied to other situations and other games (Butler & McCahan, 2005; Richard & Wallian, 2005). It is through the teacher withholding their knowledge and allowing students to create their own knowledge that these thinking skills, and a deeper understanding of games is developed (Kidman & Lombardo, 2010).

Conceptual knowledge (also referred to as declarative knowledge) is the knowledge which one possesses regarding relationships, focusing on understanding; while procedural knowledge encompasses the meaning of symbols, rules and procedures needed to accomplish a task (Kellough & Roberts, 1998; Turner & Martinek, 1999). In relation to games the former would represent an understanding of the structures of games, including how different games are similar, while the latter would be knowing the rules and etiquette of a game. For example in soccer if someone is injured it is customary to kick the ball out of bounds for that player to receive necessary attention and on the ensuing throw in the ball should be thrown to the team who kicked it out of bounds. Both

of these forms of knowledge are important to become a competent games player; without knowing the rules (conceptual knowledge) one may continuously be in violation, ultimately being ineffective while playing, while recognizing the problems games present and the solutions to these problems (procedural knowledge) will likely contribute to team success. Through playing games, and making learning authentic and real for students, participants can develop both procedural and conceptual knowledge which will endure (Kellough & Roberts, 1998; Wright, McNeill, & Fry, 2009). In the examination of university students learning to play volleyball, after meeting twice a week for 16 weeks the teaching games for understanding approach resulted in improved procedural (rules and techniques) and conceptual (strategies) knowledge in both high- and low-skilled individuals (Harrison et al., 2004). Turner and Martinek (1999) demonstrated similar results, finding that individuals who participated in a TGfU learning environment had both better (significantly better than a control group, non-significantly better compared to technique based instructional group, however still higher scoring) declarative and procedural knowledge of field hockey. Tactical approaches, like TGfU, can be a useful method to develop both conceptual and procedural knowledge of games in learners (Turner, 2005).

Research has demonstrated the role that TGfU play in the cognitive development of participants numerous times, both as an alternative to a more traditional, technique focused instruction, and representing the provision of learning opportunities which are not detrimental to student skill development (Light, 2002a) while possibly creating a more engaging learning environment which will result in more authentic learning.

As a model which takes a tactical approach to teaching games, it is important that the tactical knowledge and tactical awareness of these participants is appropriately developed through their active participation. Participation in a student-centred, tactical approach to learning volleyball yielded higher scores on a tactical awareness test compared to other university students who were instructed using a teacher-centred approach (one group with tactical questioning and one with no questioning) or student-centred approach without tactical questions, however all groups did increase their tactical awareness through instruction (Vande Broek, Boen, Claessens, Feys, & Ceux, 2011). This is not to undermine the impact that teacher-centred instruction can have on student development of tactical knowledge, as the teacher-centred group with tactical questioning developed more tactical awareness than the non-questioned group, but the student-centred (TGfU) group scored significantly higher than the other groups (Vande Broek et al., 2011). Students taught through a tactical model, specifically TGfU, "[perform] better on tests of tactical knowledge" (p. 107), as seen by studies performed by Mitchell et al., Butler, Gréhaigne et al., Rovegno et al. (Gubac-Collins, 2007), this statement upholds findings by Rink, French and Tjeerdsma (1996), who found student knowledge to be improved along with their scores on tests of tactical knowledge.

The active role of the student in TGfU may contribute to this understanding of tactics (Vande Broek et al., 2011), as students are placed in a situation where they must solve the problem on their own, creating their own, meaningful knowledge. Méndez-Giménez, Valero-Valenzuela, and Casey (2010) suggest that the traditional, technical approach does not result in enduring learning as students are passive, supporting Vande Broek et al.'s (2011) notion of the role of the active learner.

In addition to developing tactical knowledge, various studies have found that using game centred approaches, such as TGfU, has the ability to lead to these tactics transferring (Harvey & Jarrett 2014). Studies (e.g. Memmert & Roth, 2007; Memmert & Harvey, 2010) have demonstrated that practicing through a game centred approached allowed for participants knowledge and implementation of tactics to transfer between games of similar categories (e.g. invasion games) (Harvey & Jarrett, 2014), suggesting cognitive development in the students, specifically the development of higher order thinking skills as the participants were able to apply their learning in a new setting. Holt, Ward and Wallhead (2006) also found that participants had the ability to apply tactical knowledge in game play with no instructor intervention after participating in a game centred approach to learning the tactics where feedback was provided; these findings were later corroborated by Lee and Ward (2009).

Declarative knowledge of the rules, and procedural knowledge is important for effective games performance, as is the ability to recognize tactics to employ in a situation to overcome a problem (Mandigo & Holt, 2004). Equally important is the ability to make these recognitions and be able to quickly and effectively choose an appropriate response to the situation which is within their ability to carry out (Gréhaigne, Godbout, & Bouthier, 2001). Possessing the physical skills to be able to participate in the game is important, however a participant will have to make decisions about the skills, which skill to perform, how should it be performed, when should it be implemented, thus making the performance of a skill in a game a cognitive thing (Gray & Sproule, 2011).

Another aim of TGfU is to develop this aspect of the learner's cognitive abilities, namely the ability to make decisions. Turner and Martinek (1999) suggest that exposing

students to game play early in the process of learning will result in improved decision making ability, as game play can improve procedural knowledge which is necessary to understand what tactics and strategies to apply within the game. This notion was reflected in the results of their study, as the TGfU intervention group made significantly better decisions in terms of passing, as well as (non-significant) better decisions with regards to shooting and dribbling than individuals taught through a skill-focused approach (Turner & Martinek, 1999; Turner, 2005). French et al. (1996b) also found that participants learning through a tactical approach developed better decision making after three weeks, and this decision making ability was further improved between the third and sixth weeks of the study, while French et al.'s 3-week study (1996a) found that participants in all interventions could decide upon appropriate tactics during game play, but were unable to explain why they were doing what they did, in an interview. The length of the intervention may play a role in the improvement of decision making capability, with longer interventions reflecting more enhanced decision making (Turner & Martinek, 1999; French et al., 1996a).

Making decisions while in control of the object is important to games success, however the majority of time in games is spent without the object in one's possession; participants must be able to read and react to situations, making appropriate decisions in this situations without the object as well. Secondary school students who were taught to play invasion games through a tactical approach were able to make better on-the-ball decisions (e.g. who to pass to, when to shoot, etc.) than their counterparts who learned via a skills-based approach, furthermore, the tactical learners also made significantly more off-the-ball (e.g. finding space, how to play 'team' defence) decisions than the technique

approach learners (Gray & Sproule, 2011). Mitchell and colleagues (cited in Holt, Strean, & Bengochea, 2002) also found off-the-ball movement to be enhanced when students learned through the tactical approach, however in their study there were no differences between tactical and technical approaches in student's ability to make decisions. Instruction and exposure to games and skills clearly holds an impact on the ability of students to perform in games settings, specifically in making decisions during games, regardless of the methods, research has shown that tactical, instructional approaches develop improved decision making capabilities in students which are similar, or better, than students who learn in technical approaches, regardless of age.

Activity is an important part of PE, however, time needs to be taken to discuss ideas and for students to reflect on what was done in certain situations, both what worked and what did not, particularly if learning is considered an important part of the course (Richard & Picard, in Richard & Wallian, 2005), it is only through making the knowledge (e.g. tactics) conscious that students will learn, and develop the language needed to play games (Rink, 2010). Research has shown that TGfU has the ability to improve student decision making, (e.g. French et al., 1996b; Turner & Martinek 1999; Gray & Sproule, 2011; etc.), game knowledge (e.g. Turner & Martinek, 1999; Holt et al., 2002; Turner 2005) and tactical awareness (e.g. Harrison et al., 2004; Vande Broek et al, 2011) resulting in mindful, more skilled, games players. Student demonstration of higher level thinking is missing from the TGfU research literature, as is the presence of application of new knowledge to new situations (Stolz & Pill, 2014) despite the notion that students will demonstrate their comprehension if they are able to apply what they have learned in a new situation (Richard & Wallian, 2005); future works should consider examining the

relationship between TGfU, along with other student-centred tactical approaches, and the development of higher order thinking skills.

　　Self-efficacy. Social cognitive theory argues that there is a reciprocal interaction between an individual's cognitions and beliefs (among other personal factors), and their behaviours (Bandura, 1989; Bandura, 1991; Oppong, 2014). When an individual believes in their capability their behaviours and actions will reflect this self-belief (Bandura, 2001), for instance if students believe they will be able to learn, they will be more likely to engage in behaviours which will help them learn independently when the need arises (Bandura, 1989). The belief in one's ability to effectively create and enact a desired response to a situation is known as self-efficacy (Bandura, 1977; Hutchison, Sherman, Martinovic, & Tenenbaum, 2008; Jackson, Whipp, Chua, Dimmock, & Hagger, 2013; Jackson, Gucciardi, Lonsdale, Whipp, & Dimmock, 2014; Pan 2014; Taliaferro, Hammon, & Wyant, 2015). It is important to note that self-efficacy is not the actual competence of someone to complete a certain task/behaviour, but it is the belief that one holds about their competency (Kalemoglu Varol, 2014), and it is more than just the belief that the behaviour will result in the desired outcome (Bandura, 1977). This is an inherent, cognitive concept which everyone possesses, it is the strength and perception of one's efficacy which will vary from person to person, and will likely vary from task to task. The strength of one's belief will impact the likelihood that the individual will try to perform the behaviour in a situation, along with putting forth effort and persisting when faced with a challenge or adversity (Bandura, 1977; Hutchison et al., 2008; Jackson et al., 2014; Pan, 2014; Taliaferro et al., 2015), regardless of where that behaviour must be applied, e.g. athletics, education or occupational settings (Jackson et al., 2014). As

efficacy beliefs are strengthened, one is more likely to attempt to perform behaviours or engage in activities, while also actively putting forth more effort in difficult situations and persevering through these situations, compared to those with lower self-efficacy beliefs (Bandura, 1977; Hutchison et al., 2008; Jackson et al., 2014; Pan, 2014; Taliaferro et al., 2015).

Self-efficacy is not a static concept, but one that has the ability to be developed in an individual given exposure to the correct environment or learning scenario. As one has more success, and works towards skill mastery, their efficacy is likely to improve, conversely, repeated failures will lower ones efficacy, especially earlier in the learning process (Bandura, 1977). Just like in any form of learning, when the individual is exposed to a challenging task which pushes them to develop a new understanding or further develop a known skill, the individual grows and learns; similarly self-efficacy requires the individual's abilities to be tested, a task too easy will not result in mastery or growth, but exposure to appropriate challenge will promote growth and learning, and the accompaniment of recognition that their abilities are enough to support performance (Bandura, 1977). Feedback also plays a role in the development of self-efficacy, with positive reinforcement strengthening self-efficacy beliefs and negative reinforcement holding the potential to decrease self-efficacy (Taliaferro et al., 2015; Bandura, 1977; Hutchison et al., 2008). Hutchison et al.'s (2008) research demonstrates the relationship feedback has on one's self-efficacy, as individuals receiving highly positive feedback were more likely to believe in their ability to complete a task, and have a positive attitude towards the task than lower feedback counterparts. This feedback only resulted in strengthened efficacy beliefs when it was provided, as after a short (<1minute) period of

time the removal of the feedback resulted in participants in all groups performing similarly (Hutchison et al. 2008).

Self-efficacy beliefs can be developed through continued education/training in a specific field or skill. Over time, training, and skill 'mastery', pre-service physical education teachers developed their self-efficacy in including individuals with disabilities in their classes (Taliaferro et al., 2015). Hu, Clark, and Ma (2003) found that individuals with heightened self-efficacy beliefs were more likely to accept and utilize their newly developed computer and technology skills as pedagogical tools in an educational setting (Kalemoglu Varol, 2014). While individual developments in efficacy beliefs are important, they can also have an impact on others, through developing self-efficacy in those others via vicarious experiences (Bandura, 1977; Taliaferro et al., 2015) and development of relationships (Jackson et al., 2013; Jackson et al., 2014; Pan, 2014). When one has a high self-efficacy, specifically one in a visible position (e.g. teacher), they are more likely to hold positive attitudes to what they are doing, which can benefit people under their authority (e.g. students) (Pan, 2014).

If physical education aims to create individuals who are capable of engaging in lifelong physical activity, then high self-efficacy is important to develop in students. By developing higher self-efficacy, students will be more likely to choose to continue to engage, especially when challenges and adversity come about, as they will hold the belief that they are capable of succeeding in the situation (Bandura, 1977; Hutchison et al., 2008; Jackson et al., 2014; Pan, 2014; Taliaferro et al., 2015).

Self-efficacy and TGfU. TGfU provides students with the chance to experience the game first and apply their own solutions to problems; this 'no one correct answer'

approach might provide students with a feeling of success as their response, while not necessarily what the instructor envisioned or what peers came up with, may appropriately address the problem. This notion aligns with Bandura's (1977) notion of skill mastery, if students are able to achieve success in their creation of appropriate responses, they might develop stronger beliefs in their ability to respond to situations and believe they can succeed in new situations. Additionally, as TGfU promotes more flexible movement responses to be used in the game (Bunker & Thorpe, 1986), students may feel more successful, as they are not constrained to a particular, rigid movement which they are unable to complete. This was the case for pre-service physical educators who participated in TGfU lessons in Gubacs-Collins' (2007) study, "[participants] indicated that although they had some difficulty in executing skills they continued to feel successful because the decisions they made were correct" (p. 121). These participants knew that their skill execution would improve eventually, and felt encouraged to continue developing their skills and participating in the lessons because they were achieving success in another aspects, namely the decision making, of the games. In the traditional method to teaching, the emphasis is placed more on skill development/execution; if this were the case for Gubacs-Collins' students, they might have been discouraged and turned off by games, physical activity, or physical education, however TGfU afforded an encouraging environment which built self-efficacy, and contributed to student engagement, and potentially continued engagement, with the games; is this development of belief in one's ability to make decisions and belief that skills will follow something that will occur when TGfU is used in secondary school students?

The authentic nature of TGfU allows students to connect their learning and have more success, particularly when they are earlier in learning about the game. This authentic approach also allows for feedback to be provided in a more relevant setting (Rink, 2014), which may be more widely accepted and welcomed by students, more deeply impacting their learning. With this provision of feedback, students have the possibility to develop more self-efficacy as was found with Hutchison et al. (2008), so long as this feedback is timely, as students need it (Hopper, 2011), relevant, and appropriate/applicable.

Gray and Sproule (2011) found that learners who had participated in a games based physical education setting believed that their decision making ability in games had improved substantially over the intervention, and the students believed they were more effective at making decisions than prior to the intervention; conversely, individuals who had participated in a skill based instructional setting believed that their ability to make decisions had deteriorated over the course of the instruction. These finding are similar to Harrison et al.'s (2004) findings, which articulated that both low- and high-skilled university participants viewed their abilities as improved and, as a result of this improved skill, felt more efficacious. These findings suggest that TGfU may hold the ability to improve students' views of their self-efficacy, however most of the research has been conducted in university students, with few studies examining secondary students, this study aims to further the knowledge of self-efficacy in the secondary school student population.

Affective domain. As previously discussed, physical education holds the ability to benefit the development of the psychomotor domain and the cognitive domain; but

should also take into account the affective domain, also known as the feeling domain (Wall & Murray, 1990). The affective domain is one which encompasses the feelings, emotions and attitudes of an individual (Hyland, 2014; Wall & Murray, 1990). Clive Pope (2005) quotes Beane in his explanation of the important role which education holds in the development of the affective domain; "education must be affective and cannot be otherwise. Affect enters the curriculum in any experience that influences (or attempts to influence) how young people see themselves, the world around them and their place in that world" (p. 283), unfortunately this dimension of the individual is often "unnoticed…undervalued and neglected" (Hyland, 2014, p. 277) in education in general and in physical education in specific. Despite its neglect, considerations and development of students' affective domain, specifically emotions, attitudes, feelings and interpersonal relationships can be accomplished in education (Hyland, 2014), and physical education is perfectly poised to accomplish this if attention is given to affective development; as physical education incorporates movement, and emotions are connected to movement (Pope, 2005).

TGfU and the Affective Domain. According to Holt, Strean and Bengochea (2002) and others (e.g., Pope, 2005), it is imperative that TGfU is not reduced to physical skill development, or competencies in tactical and cognitive development, but the affective domain must represent, at least, an equal part in what students are developing during TGfU lessons as this was an initial goal for Bunker and Thorpe (Kretchmar, 2005). During physical education lessons all three domains (psychomotor, cognitive and affective) are meant to be integrated with one another (Pope, 2005); especially important is the integration of affect and cognition as affect "brings learning out of mere passivity

and accumulation toward full active participation and meaningful outcomes" (Beane, quoted by Pope, 2005, p. 276-277). These scholars assert, therefore, that in order for students to become active participants in the learning process, which the constructivist nature of TGfU requires, the affective domain must be considered and attended to, and it must be focused on, otherwise, the learning will not be as meaningful with learners being less engaged.

In addition to the constructivist nature which TGfU presents, is the more focused notion of situated learning, with learning being situated within the community of participants (Kirk & MacPhail, 2002; Hopper, 2011; Griffin & Patton, 2005). Not only does this result in the active participation of the students in creating knowledge (Griffin & Patton, 2005), but this social interaction develops social and emotional skills "such as self-awareness, social awareness, self-management, relationship skills, and responsible decision making" (Butler, Storey, & Robson, 2014, p. 459); TGfU can aid in the development of these skills which are transferrable to functioning in other social situations.

Affective variables have been included in the TGfU research much less than physical and cognitive variables (Oslin & Mitchell, 2006), as such the emotional benefits of TGfU are under-examined (Holt et al., 2002; Pope, 2005); however, there has been some research conducted examining the social aspect of the affective domain and its relationship with TGfU. Through the TGfU framework learning is done socially, requiring students to engage with one another; working through this framework allows for and requires students to develop the appropriate social skills to work with one another (Kirk et al., 2000; Kirk & MacPhail, 2002; Richard & Wallian, 2005), there is also an

emphasis on social responsibility as students become responsible for not only their own learning, but the learning of their peers (Dyson, 2005) which develops these social abilities in the students. Mandigo et al. (2008) found that TGfU increased the perceived support of students, as they relied more on the others within the learning environment to help create their learning, feeling supported by peers and teachers. Fry, Tan, McNeill and Wright (2010) found that students developed both improved social cohesion as well as teamwork when instructed utilizing game centred approaches in physical education. These findings are similar to others outlined by Harvey and Jarrett's (2014) review of TGfU literature. TGfU has been proven to hold the potential to impact the social development of students in a variety of grades.

Judy Rink claims there is no advantage in the affective domain to use TGfU (or other instructional approaches) when effective teachers are used (Stolz & Pill, 2014). Despite this claim, research has shown that students do benefit from learning through the TGfU model (e.g. Mandigo et al., 2008; Hopper, 2002; Jones, Marshall, & Peters, 2010). While effective instruction, as Rink describes, plays an important role in the affective development of the student, the situations which students are put in, and required to work with others will impact this development as well. TGfU lends itself to affective development as it asks students to appreciate the game, appreciation being a term which is, itself, a form of affect (Pope, 2005), along with working with others situating learning in a social environment (Kirk et al., 2000; Kirk & MacPhail, 2002; Richard & Wallian, 2005; Dyson, 2005), developing this domain of the child.

In addition to this development, TGfU aims at creating better participants, who will engage in activity and games for longer, focusing on all domains while teaching/learning

can result in more positive attitudes towards sport and physical education, and potentially

the adoption of an active lifestyle (Siedentop, 1996; Pope, 2005). Affect is difficult to

measure, due to the difficulty in determining what is specifically encompassed within the

term; affect might be seen in the smiles or claims of delight, but it may also be seen in

making a timely, beneficial decision to give a player the advantage over their opponent or

the participation in a long rally within a game (Lloyd & Smith, 2010). This difficulty in

discerning what exactly encompasses affect is likely why research often does not focus

on it, but it should be examined, including emotion, feeling, preferences, attitudes and

appreciation (Pope, 2005). It is especially important that research is conducted examining

affect in games and play, "because emotion is what play and sport is about" (Pope, 2005,

p. 273). Holt and colleagues (2002) call for more research to examine the affective

domain as this research may reveal motivating factors to keep learners participating in

physical education and movement inside and outside of school.

TGfU and student enjoyment. Fun and enjoyment are considered one of the main

reasons that youth participate in sport (Wankel & Sefton, 1989; Kidman & Lombardo,

2010), and are also reasons that students choose to participate in physical education (Sulz

et al., 2010), with sports providing a motivating context for children to participate

(Wankel & Sefton, 1989). Participation often begins because children want to play sports,

due to the enjoyment associated with sport (Kidman & Lombardo, 2010), participating

due to this enjoyment rather than because participation is beneficial for them (namely

their health) (Corbin, 2002). Wankel and Kreisel (1985) determined that participants saw

the sport itself and improving their skill to be a couple of the items which contributed to

their enjoyment within the sport, with extrinsic rewards not representing reasons for

participation (Wankel & Sefton, 1989). Fun is considered a positive affective state which is linked to happiness and other positive feelings as opposed to sadness or negative feelings, which is consistently present during/after participation in an activity over time (Wankel & Sefton, 1989).

Kretchmar (2005) suggests that rather than focusing on fun, we should focus on delight, due to the influence of contextual and individual factors which influence fun making it more difficult to define or measure, a notion which Pope (2005) thinks holds merit. "Delight…is a memorable experience…it stands out from the ordinary." (p. 202), whereas fun is more commonplace (Kretchmar, 2005); making these rarer, yet more memorable, experiences more difficulty to discern and assess. The open, creative atmosphere of TGfU, which allows all students to participate regardless of skill level, represents an environment where students can acquire skills and be creative in their movements, which has the potential to lead to delight itself (Kretchmar, 2005).

Joy or enjoyment are not always the first thing that come to mind when thinking about learning a new game or the skills associated with the game, usually frustration persists; the accommodations and modifications present within the TGfU framework, enables students to enjoy the game and learning about the game more because their individual needs are met (Lloyd & Smith, 2010). "…[the] TGfU approach provides the most promising curricular framework" (p. 101) for promoting the shift of thinking about how actions are performed to understanding how actions are experienced and felt (Lloyd & Smith, 2010), connecting the physical (performance of the skill) with the cognitive (understanding why/how to perform the skill) and the affective (enjoyment that comes with using the skill). While little research has been done examining the role of TGfU in

affective development (Holt et al., 2002; Kretchmar, 2005), there has been some which has looked at the experience of enjoyment through TGfU.

In their study focusing on elementary students, Mandigo et al. (2008) found that most of the students participating experienced positive affect after learning how to play games through the TGfU model, with the students communicating that the games were fun (enjoyable and wanted to participate in the activities again), although this was not the case for all the students, with approximately 17% of students reporting the experiences as boring or too easy. Girls in the study were more likely to say they had an enjoyable experience than boys, and boys (19%) were more likely to report being bored than girls (15%). Would this same result of enjoyment vs. boredom in TGfU occur in secondary school students, with girls enjoying HPE more than their male counterparts? Both male and female students (aged 11-14) in Jones et al.'s (2010) study found TGfU to be more enjoyable, however similar to Mandigo et al.'s (2008) results the girls in the study reported more enjoyment that their male counterparts. Perhaps TGfU represents a method of engaging girls in more optional PE as their enrollment (Sulz et al., 2010) and physical activity levels (Cragg & Cameron, 2006) are traditionally lower than that of similarly aged boys.

Boys and girls are often interested in different activities; the provision of different, appropriate activities to meet each population's needs may be needed to engage and provide enjoyment to all students (Corbin, 2002). TGfU might be suited to engaging boys and girls differently, providing activities which are unique, engaging, and are modifiable to involve all students (Hopper, 2011). In two studies, Light (2002b, 2003b) found that undergraduate university students who had previously had negative

experiences with sport and games enjoyed TGfU lessons more than students who had previously had positive experiences with sport. Alison and Thorpe (1997) agree with Light's findings, however conducted their study with grade eight and nine students. Students with lower abilities who participated in the traditional, skill-focused teaching approach were unable to overcome their limited abilities; while students in the TGfU intervention group did not have the same trouble, and reported having more enjoyment in the lessons, along with higher enjoyment of PE in general (Alison & Thorpe, 1997). These findings reflect those published in a monograph regarding TGfU's effectiveness, participants who were engaged in learning through a tactical approach saw increased enjoyment (Hopper, 2002).

Pre-service and new in-service primary teachers in Light's (2003) study initially held mixed opinions about TGfU as a learner. Some of the participants really enjoyed their first exposure to TGfU (as a learner) and reported that their friends, who previously did not enjoy physical education, also enjoyed the lesson they participated in. Other participants saw TGfU as a drastic change to the PE they were used to, but gradually warmed up to the idea of using a constructivist approach in the gymnasium, especially liking the notion that players of all abilities were able to be engaged. The in-service teachers reported that their students also enjoyed the learning environment created by TGfU, the teacher felt accessible to the students and thus a better relationship was developed due to the egalitarian environment. One of the in-service teachers reported that "[as] soon as I start explaining (a new game) their eyes gleam…" (Light, 2003a, p. 50). Students felt engaged with the material and enjoyed the challenge of discovering the games with one another. Would students at the secondary level display this same 'gleam'

in their eyes, demonstrating a sense of enjoyment in the TGfU model? Would a response of enjoyment occur right away, or would it be delayed with initial resistance to the model due to its unfamiliarity, similar to that of some of Light's participants, or would they not enjoy TGfU at all? This study hopes to answer these questions.

Werner et al. (1996) and Jones et al. (2010) suggests that TGfU's focus should not only be on the performance outcomes, but a primary purpose of instruction (particularly through TGfU) is to increase enjoyment and participation. This study aims at furthering the body of knowledge associated with enjoyment and TGfU. Does the TGfU instructional model represent an enjoyable learning method for secondary school students?

Students' perceptions of TGfU. There is much research focusing on what teachers feel about TGfU, specifically the benefits or limitations of the instructional model, their apprehensions towards utilizing it, even the challenges associated with learning how to implement this model after their teacher education (e.g. Butler, 1996; Light, 2003a; Memmert & Koenig, 2007; Li & Cruz, 2008; Wright et al., 2009; Wang & Ha, 2009 Wang & Ha, 2013). In addition to this body of research, there is work which has examined university student and pre-service teacher's opinions on TGfU and the struggles associated with learning how to implement it, along with potential methods to make this process easier (e.g. Gubac-Collins, 2007; Lodewyk, 2009). Not only did Gubac-Collins' (2007) research focus on participants' perceptions as future educators but also had them respond from the perspective of the student. These participants reported having more fun and were more engaged with learning regardless of their skill level. Research which examines the opinions and outlooks of students learning through the

TGfU instructional model has been done, however there is less research in this body of work.

Some students are disengaged and disaffected from PE, Butler and McCahan (2005) suggest that a more constructivist approach, like TGfU, and less traditional or direct approach might benefit the students. Nathan and Haynes (2013) found that students "liked, enjoyed and were motivated when engaged in training, which incorporated them in mini game situations, tactical elements of game play" (p. 300), however their study was performed with a modified model of TGfU which combined another instructional technique, called Style E Teaching. As TGfU affords the opportunity to participate in more game like situations, students are more likely to be engaged with a TGfU lesson, enjoying it more and being more motivated to participate, similar to participants in Nathan and Haynes' study.

Wright, McNeill and Fry (2009) explain some student conceptions of TGfU/GCA lessons as being more interesting, with a more fun learning environment than typical PE classes. The students in the study reported that they liked the variety of content which was covered, being able to actually play the game and learn about the games themselves, the social aspect of the learning environment, the provision of lots of activity time, and they activities provided an appropriate challenge. Mandigo et al.'s (2008) findings are similar to that of Wright, McNeill and Fry's, with participants reporting they liked the fun atmosphere which TGfU had created, this fun atmosphere included social interaction and appropriate challenge for the participants, and the students also felt somewhat competent at what they were doing.

While both these studies demonstrated the positive views that children held about the TGfU instruction model, they also found that some students disliked the learning environment and activities. Wright, McNeill and Fry (2009) note that some students found the discussion aspect of TGfU to be boring, the skills used in the games to be too difficult for them, or they did not like particular aspects of the games or disliked the games themselves, however the final two findings may have been caused less by TGfU and more by the games/sports themselves. Mandigo et al. (2008) also found some students perceived TGfU to be boring, and that the games category they were taught through may have impacted the students opinion of competence or fun, with invasion games being the most likely to cause students negative feelings.

Students aged 9-13 years old participated in a game centred approach to learning in PE in Fry, Tan, McNeill and Wright's (2010) study. These students reported that learning in this way was engaging and increased their interest within the games; many students' comments revolving around the enjoyment of getting to actually play the game, particularly when they had developed some of the skills and an understanding of how to play (Fry et al., 2010). Similar to Mandigo et al. (2008), and Wright, McNeill, and Fry (2009) some students in Fry et al. (2010) also reported that this learning approach was boring, having already learned the skills in previous years, so no learning was occurring or no value was added to their abilities. These studies, Mandigo and colleagues' (2008), Wright, McNeill, and Fry's (2009), and Fry et al. (2010) were conducted with elementary school students which may explain the negative attitude towards the skills required in the games or the games the students participated in. It is also worth noting that Mandigo et al. (2008) was the only study which used a true TGfU approach, with the others modifying

TGfU to reach their learners, which would have impacted the students perceptions of the instructional model. If TGfU is used with secondary students, what opinions would these students hold regarding the model, their likes and dislikes?

As a learner, what might students like and dislike about TGfU? Could a secondary school student's views on TGfU from the perspective of a learner be similar to those of the university students, pre-service teachers or younger children? This study aims to further the body of knowledge and explain what students might like and dislike about learning through the TGfU instructional model.

Self-Efficacy, Enjoyment, and Intention to Enrol in Optional PE

In order for a student to gain the physical, cognitive, social and emotional (affective) benefits which physical education aims at instilling, they must enroll and participate in the class. However the trend for enrollment in Canadian and American physical education, particularly when it becomes optional, is for students to stop participating (Sulz et al., 2010; Lodewyk & Pybus, 2013; Gao, Lodewyk, & Zhang, 2009; van Daalen, 2005) thus losing the opportunity to develop their whole person, and to develop the skills and knowledge to aid them in being physically active for the duration of their lives (Sulz et al., 2010). For instance, when physical education becomes optional in Ontario (grade 10), student enrollment is 49%, which is half the rate of enrollment the year before (98%); in British Columbia, enrollment in optional physical education (grade 11) is only 10% for females and 22% for males (Sulz et al., 2010), but why are so few students participating in the subject area?

In their study, Lodewyk and Pybus (2013) found that students who chose not to enroll in optional PE reported lower enjoyment, more social concerns, and a dislike for

certain activities which were offered in the class. The activities offered in a PE class play a role in the enrollment or non-enrollment of students, with students enrolling if they like the activities that would be offered and not enrolling if they did not like the activities (Luke & Sinclair, 1991; Sulz et al., 2010), thus suggesting that enjoyment plays an important role in enrollment in PE. Work by Gibbons, Wharf Higgins, Gaul, and Van Gyn (1999) have found that girls are particularly underserved by physical education in their schooling, and has explained their dissatisfaction as relating to an overemphasis of team sports and competition in PE, while Smith and St. Pierre (2009) suggest that the type of instructional unit influenced enjoyment and student enrollment.

As Kidman and Lombardo (2010) describe, one of the main reasons children and adolescents participate in sport and physical education is for fun, or otherwise stated, enjoyment; conversely, negative experiences in PE, such as boredom, are linked to amotivation (Ntoumanis, Pensgaard, Martin, & Pipe, 2004; Ntoumanis, 2005). If activities and learning opportunities are made to be fun, and the emphasis in PE is placed on fun and learning, students will be more likely to want to further engage in the subject (Wankel & Sefton, 1989; Pope, 2005; Ntoumanis, 2001; Gibbons et al., 1999). Enjoyment, a form of affect, is linked to play; when play and games are enjoyable, they attract engagement (Pope, 2005); game centred approaches, which are a shift from the traditional approach to physical education, might represent this needed shift towards enjoyment and influencing intentions to further enroll. Sport Education (another game centred approach to PE instruction) was found to improve student enjoyment (Wallhead & Ntoumanis, 2004). The role that TGfU has on influencing student enjoyment has previously been discussed in some depth. Perhaps these approaches are perfectly poised

to provide the needed enjoyment to influence further engagement in optional PE, thus reversing the decreasing enrollment in Canadian schools.

The emphasis in physical education on too much competition, or activities which students do not find enjoyable, relevant, or wish to participate in is a limiting factor in the enrollment of students (Gibbons et al., 1999; van Daalen, 2005; Sulz et al., 2010; Lodewyk & Pybus, 2013). Ntoumanis (2005), Gibbons and colleagues (1999) and van Daalen (2005) suggests that this emphasis on competition may particularly be a disservice to girls, however, do all boys enjoy competition or competitive environments, or are some also underserved by a competitive emphasis? Lodewyk & Pybus (2013) found their male participants disliked the competition, particularly when students took the competition too seriously, as this decreased their enjoyment. When PE focuses more on improvement, rather than competition, students develop more intrinsic motivation, and more desire to put forth effort within the lesson (Ntoumanis, 2001), with perhaps more desire to engage in physical education in the future. When the environment focuses on learning about the process and mastering the processes (i.e. performing the skill correctly or recognizing the correct time to use the skill) rather than simply on the product (i.e. how many shots go in the net), students have been shown to increase intent to participate (McNeill, Fry, & Hairil, 2011). Environments which lack novelty, lower motivation in PE (Sulz et al., 2010; Lodewyk & Pybus, 2013), and likely lower any desire to engage in PE in the future, while environments which are unique, interesting, and provide opportunities for social interaction are seen by students to be more enjoyable, and increase the desire to engage with the course (Gibbons et al., 1999). The modifications, and unique games which are used in TGfU (Stolz & Pill, 2014; Hopper, 2002; Bunker &

Thorpe, 1986) might present the necessary, distinctive environment for students, which will increase their motivation and desire to participate.

In addition to the role that enjoyment plays on student intentions to enroll, student perceived competence, or self-efficacy, is also important. Kidman and Lombardo (2010) suggest that the pursuit of excellence is another of the main reasons for participation in sports, but suggest that this is at the personal level rather than competitive or in comparison to other students. Smith and St. Pierre (2009) suggest that self-efficacy is linked to enjoyment, and thus influences enrollment. When students perceived themselves to be more competent at completing tasks and performing skills in physical education, they are also more likely to engage in physical activity under their own direction, during their free time (Taylor, Ntoumanis, Standage & Spray, 2010), and after they have completed school (Jones et al., 2010). It is important that students are developing the intention to be physically active outside of school, particularly when they are older, however does self-efficacy play a role in the intention to participate in optional physical education? Participants in van Daalen's (2005) study described only enjoying physical education when they were successful or "'good' at the activity or sport in question" (p. 117), while Gao, Lodewyk, and Zhang (2009) found for middle school students, self-efficacy was a predictor of intention to participate in future PE, which mirrors Bandura's belief that self-efficacy in one's abilities is linked to participation (Sulz et al., 2010). A potential explanation for this may be that as confidence and self-efficacy are increased, tasks become more meaningful to students due to the increased enjoyment they have with the task (Lodewyk & Pybus, 2013; Sulz et al., 2010), and if students are able to accomplish something under their own power (e.g. learn a skill) they

are more likely to have a positive experience (McCarthy, Jones, & Clark-Carter, 2008)

with physical education and wish to continue enrolling in the course, even when it

becomes optional. If TGfU holds the power to both increase self-efficacy in students and

provide them enjoyment, as per the studies previously discussed (e.g. Mandigo et al.,

2008; Harrison et al., 2004; Kirk, 2005), then it will also likely make physical education

more meaningful for the students, resulting in an increased desire to engage and enroll in

more, optional PE.

The social interactions which sport and physical education provide, also represent

an important reason for participation (Wankel & Kreisel, 1985; McCarthy et al., 2008),

with students who feel supported by peers desiring to engage further (Lodewyk & Pybus,

2013; Sulz et al., 2010), while students who lack this support, or feel persecuted, do not

wish to participate or engage in further PE (van Daalen, 2005). In her study, van Daalen

(2005) found "peer mistreatment" (p. 118) to be the second most cited reason for

dropping out of PE. When interactions are positive, and students are able to work with

their friends, they desire to engage in PE more (Sulz et al., 2010). Social comparisons

also represent a limiting factor to enrollment, with students being deterred from enrolling

if their skills and abilities would be compared to others (Sulz et al., 2010).

By TGfU encouraging social responsibility for the learning which takes place, and

having students work with one another to construct their knowledge (Dyson, 2005),

students are working with their friends, and likely creating new friendships; which is

important for sustained involvement. TGfU's emphasis on social construction of

knowledge (Butler, 1997; Kirk & MacPhail, 2002; Richard & Wallian, 2005; Butler &

McCahan, 2005; Dyson, 2005) as opposed to individual construction of knowledge may

help students to learn the strategies and tactics associated with games. Its emphasis on flexible techniques (Bunker & Thorpe, 1986) may also help to reduce the social comparison as students are not forced to perform a skill in a particular way, thus demonstrating disparities between their performance and that of their peers, but allows students to perform the skills in a way which is meaningful and doable for them. As it may work to create a more positive, cohesive social environment, with less emphasis on social comparisons, TGfU may be in line to promote more sustained involvement in PE, potentially even when it becomes optional.

Based upon all the aforementioned studies, TGfU holds the ability to empower all stakeholders in education "to promote the holistic and transformational education of children 'through the physical.'" (Butler & McCahan, 2005, p. 51). It is important that educators and researchers "focus on all domains, including affective (namely the emotions), [as this] will result in increased positive attitudes towards sport, more buying into what sports have to offer (both values and nuances), and potentially a more physically active lifestyle" (Sidentop, quoted by Pope, 2005, p. 281), a goal of physical education in Canada.

Chapter 3 – Methods

The aim of this study was to examine grade nine students' enjoyment and self-efficacy within a TGfU unit during PE, their desire to engage in optional PE after completing a TGfU unit, and their likes and dislikes about TGfU. A mixed-method research approach using both quantitative and qualitative measurement was employed to examine the variables of interest. Questionnaires with both open-ended (qualitative) questions and scaled (Likert-scale) items were used to gather the data. Research was conducted within four grade 9 PE classes at a secondary school in a regional (district) school board in southwestern Ontario, Canada. This chapter outlines how the research was conducted, including a description of the participants, the procedure undertaken, and the measures used.

Ethics

Prior to beginning the study, ethical clearance was sought, and granted, from Brock University's Ethical Review Committee (REB #14-253), as well as from the school board, and the participating school's principal and PE teachers. Following this, participating classes received a brief presentation outlining the purpose, the voluntary nature, the procedures, and the students' role in the study. At this time, the researcher's contact information was provided to the students. Additionally, a letter of invitation containing the basic information of the study and an informed consent form was sent to the parents/guardians of interested students. The benefits of this research study outweighed any of the foreseeable risks; no harm was expected to come to participants as a result of the research. Students participated in PE lessons as they normally would, however the method of instruction was altered in order to answer the research questions.

Important ethical guidelines, such as informed consent and confidentiality, were followed to preserve the well-being of each student and ensure the safety of all participants.

In order to be included in the research, the parents or guardians of the student were required to support student participation through the provision of informed consent in order to protect their children, as the participants were minors. Students were also required to give their assent to participate to demonstrate their understanding of what the study asked them to do, and to state their willingness to voluntarily participate. Throughout the study, students were reminded of their right to refuse to answer any questions, and their right to remove themselves from the study; with the expression that these actions may occur at any time. Participation in the research by the students was done voluntarily. Students who refused to participate were not pressured into participation. Additionally, there were no negative consequences associated with not participating in the study no was the students' grade in PE reflective of their participation or non-participation in the research study. Students that chose not to participate still completed questionnaires at the same time as participating students; however, their data was removed from inclusion in the study.

All personal information (demographics), and responses to questions within the questionnaires were kept strictly confidential. After data input occurred, student names were removed and replaced with numbers. The PE teacher(s) did not have access to completed questionnaires; however access to all questionnaires (for reference) was available to parents, participants and teachers upon request throughout the duration of the research. The researcher was the only person with access to the student data and all

completed questionnaires and student data were stored in a secure location within a locked office.

Participants

    Students. The sample for this study involved four (two female and two male) grade nine single-sex PE classes. Class enrolment ranged from 23 to 30 students aged 13-15. In total, 71 students provided parental consent and student assent, and were included in the data collection. All students participated in the unit regardless of consent. The researcher observed the first lesson of the unit for class A and D but was unable to observe the entire lesson for class B and C as these classes took place simultaneously. Classes B and C were both partially observed during the first lesson. Through observation by the researcher, the classes contained students with a wide variety of abilities, attitudes and competencies. These assumptions by the researcher were developed through observations as well as through communications with the classroom teacher and are influenced by the researcher's biases and experiences.

    Class A. Class A took place during the second period of the school day. There were 23 girls who were enrolled in the class and 21 provided parental consent to participate in the study. The class appeared to be inclusive of one another in activities ensuring that everyone had opportunity to try activities or skills. All of the girls participated in activities; however, some of the girls were more timid and had little confidence in their skills. There were also several students who demonstrated a high level of skill in various activities/movement forms.

    Class B. Class B occurred during the period following the school's common lunch although on Tuesdays the class occurred during the final period of the day (as a

means to accommodate students playing on extra-curricular sports teams). A total of 30 students were enrolled in the course and 22 provided parental consent to participate. Students varied in ability levels as well as motivation, which their teacher described as typical of grade nine boys. Conversations at the beginning of class about activities the boys performed outside of the classroom often revolved around hockey, and the students often asked to play hockey during their PE classes.

  Class C. This class took place during the third period of the school day, immediately after the school's common lunch period. Similar to class B, this class occurred during the fourth period of the day on Tuesdays. A total of 29 girls were enrolled in this particular class although only 23 provided consent and assent. The students in this class appeared to be very keen and interested in most activities yet could get sidetracked fairly easily, particularly if there was someone else filling in for their regular teacher. The girls listened to expectations for the course and each class/activity but at times the girls would be preoccupied with the music that was being played during the class which could distract several of the students at one time. Some of the girls could get aggressive during game play which would subside as soon as the games were done and was likely caused by a high level of competitiveness.

  Class D. The final class took place during the last period of the day except on Tuesdays where the period was switched to right after lunch (i.e. took the place of Class B/C's period). This was another boys PE class with 30 enrolled, 18 of whom obtained and provided consent to participate in the study. Similar to Class B, there was a large range of ability levels in the class. Student motivation also varied greatly as did their ability to focus on tasks or instructions. Their teacher again described them as typical

grade nine boys. Conversations with this class also seemed to revolve around hockey outside of school and playing hockey within the class which could be related to the community where the school is situated.

Teachers. Three PE teachers participated in the study by involving their classes and teaching a TGfU unit (two teachers were female and one was male). The female teachers each taught one class while the male teacher taught two classes. All teachers received training as a part of their participation and held similar understandings of and experience with TGfU. All of the teachers appeared to be equally knowledgeable and held much experience in teaching grade nine PE. This information was collected through semi-structured interviews (see Appendix H) and is described for each teacher in more detail. Teacher's names used in the study have been replaced with pseudonyms to protect their identities.

Tanya. Tanya, who taught the first of the two female PE classes (Class A in this study), had been teaching physical education for 21 years and spent 20 of those years teaching grade nine students. She described her style as very organized, where more activities were planned for each class than would be required to ensure that students would always be able active and engaged. She strives to create a very inclusive setting for all students and aims for maximum participation, specifically achieving these goals through the use of very few elimination games. With a laid back leadership style, Tanya focuses effort and planning on student enjoyment and fun rather than on skill evaluation. While the latter still plays a role, participation and enjoyment are goals for all of her PE classes. Prior to this study, Tanya had seen and used some non-direct teaching models

although she had never used the name TGfU or followed the formal model of TGfU. She described her teaching as falling under a direct model.

Pam. Pam taught the second of the female PE classes, class C in this study, which took place in the period right after the school's lunch. She has been teaching since 2007 and has spent all but one of those years teaching grade 9 PE. Her class follows both a daily and weekly routine wherein each day begins with a warm-up specific to the day of the week (e.g. Mondays are a stair warm-up). Upon completion of the warm-up, Pam uses lots of activities including drills, games, and lead-up activities to teach students skills and to lead to a formal game. Goals for the students are to be active, try their best, put forth initiative and have a good attitude during class. Pam encourages and expects her students to do their own personal best and does not care about how students perform relative to one another. Pam has no formal training in TGfU or non-direct models of teaching and does not formally use these models; however, she describes her style of teaching as intrinsically following a less direct style. She was also interested in learning more about non-direct models of teaching in order to improve her teaching.

Dwight. Both male classes (Classes B and C) were taught by Dwight. He had been teaching for ten years and teaching grade 9 PE for nine of those years. When asked about his style of teaching, Dwight described himself as taking a more laid-back approach. He strives to make the class fun and desires to make it something that students want to attend on a daily basis. Being an approachable teacher is of the utmost importance to him. There are a few basic fundamental skills that Dwight tries to get students to learn in each sport; aside from these skills he tries to focus on letting students play the actual game as much as possible. Prior to the study Dwight had no formal experience or training in TGfU or

non-direct models of teaching; however, he tried to coach through the use of skills and activities which are not typically a part of the specific sport he is coaching. For instance, he would have young children learn to hit a baseball by beginning with a tennis racket and tennis ball; or while coaching football, he would have wide receivers play basketball to teach them how to 'box out' to be able to use their body to shield the ball from a defender. Aside from such uses, he had never applied indirect teaching methods in his own teaching.

Research Setting

The research study took place within a secondary school PE setting. Grade 9 PE classes were studied as most schools attempt to have their students complete their single required credit in PE at this grade level. The school was located in a school board in southwestern Ontario. To control for unwanted variance, students from one school were used in an attempt to minimize the demographical differences between students. The school had a number of options where the PE classes might take place (e.g., a large gym, a smaller gym, a balcony overlooking the large gym, weight room, a fitness studio, and health classrooms). For the purposes of this study, the large and small gyms and the balcony were used for the lessons; and each class used at least two of the different spaces.

Large Gym. The large gym was a space which had a full basketball court with two main nets on each end and two smaller basketball nets on each of the side walls (additional 8). The space was well lit and a new floor had recently been installed. A dividing wall could be extended to split the gym into two smaller spaces. The balcony overlooked this gym and if students are on the balcony they could present a distraction to those below. A small equipment storage room with two open doors was located in the

centre of the gym below the balcony with many cupboards to store the various equipment which was organized to have one specific kind of equipment in each place (e.g. a drawer of all the badminton equipment). The gym had its own speaker system for music to be played during classes.

Construction occurred on the bleachers located on the balcony during one of the weeks of the study resulting in only half of the large gym being accessible due to construction materials being stored in half of that gym. This construction also presented a distraction as there were loud noises from equipment and the workers' radio.

Small Gym. The small gym was attached to the large gym and could be accessed by a door at the one side of the large gym. It was approximately half of the size of the larger gym and housed a small basketball court. Similar to the large gym, the small gym space was well lit. The school's weight room overlooked the small gym; yet, unlike the balcony above the large gym, the weight room was closed off with only two small windows overlooking the gym. A small equipment room located in the corner of the gym stored some equipment although the majority of equipment required for classes would need to be brought from the other equipment rooms. When loud music was played in the large gym it could be heard in the small gym; however, if the music was kept lower the sound did not present a distraction to classes in the small gym.

Balcony. The balcony overlooked the large gym and it had a stair case at both ends which led down to the large gym. The school's weight room could be accessed through a door at one end of the balcony. The space was well lit and the floor was concrete, so students would often slide around on the floor which could present a safety concern. Larger mats were stored in a pile in one of the corners of the balcony and the

bleachers were also located on the balcony. Construction on the bleachers meant that the

balcony could not be used as a space for one of the weeks, yet it was not always

necessary and was typically only used when other spaces are unavailable. Due to the

small space that the balcony presented activities had to be modified to fit the space which

would often result in only small groups of students playing games at one time while the

rest would watch.

Music from either the large gym or the weight room would echo around the

balcony and would create a distraction for classes. Additionally, any classes on the

balcony could cause a distraction to the large gym below (e.g. balls accidentally falling

off the balcony and noise from students playing on balcony while teacher below is trying

to speak to students).

Instructional Unit Content

Lesson plans and the unit progression were created by the researcher prior to

knowing the school or the classes involved in the study. This was done to remove the

burden of the task from the participating teachers and keep them interested in

participating in the study, as well as the research ethics boards requiring the unit plan

before granting approval. The researcher developed an overall progression of tactical

focuses for the unit before planning each individual lesson so that lessons would build on

one another and a variety of tactics important to territorial games would be covered.

The teachers who participated in the study were given professional development

training on TGfU (e.g., a brief history, purpose, pedagogical principles, and how to

implement TGfU in their classrooms) that was led by the researcher. An additional part of

the training involved the teachers working together with the researcher to refine and

better comprehend the lesson plans. The researcher was also readily available to clarify any questions the teachers had about the lessons or activities throughout the duration of the unit. Refinement of the lessons with the teachers was done to ensure that the lessons followed the structure of TGfU, aligned with school policies, procedures and curriculum, and ensured that the lessons met the needs of the students in the participating classes. The refinement also aided in making the lessons more relevant and personal for the teachers; however, the teachers were removed from the actual creation of the plan which may have hindered their full comprehension while delivering the lessons. Teachers were asked to follow the unit while keeping their students' needs and safety as a focus. Following the lesson plans allowed for the control of unwanted variance and ensured that classes received the same instruction. Similar to Memmert and Koenig (2007), the individual teaching the class was required to follow the lesson plan as it was designed. The researcher was present on numerous occasions to confirm that lessons followed the previously determined progression and to follow up with teachers regarding any issues or clarify any questions.

A unit normally lasted for one week (five school days) focusing on one particular activity, game, or sport. As TGfU follows a thematic approach, a two-week unit was conducted exposing students to multiple games of a similar nature rather than just one. The unit was planned to occur over a period of 10 lessons (i.e. two weeks), however only the first eight lessons were completed as the school was closed for two days (a holiday and professional development day) during the two weeks. The unit for this study followed the territorial games category incorporating handball, rugby, flag football, and ultimate disc. Various tactics which are similar within these games (e.g., finding space,

defending space, playing with width) were the focus of each lesson. Each lesson also followed the TGfU model and included the six stages in TGfU (Game, Game Appreciation, Tactical Awareness, Making Appropriate Decisions, Skill Execution and Performance). Refer to Appendix I to see the unit overview and Appendix J to see the unit lessons in their entirety.

Procedure

Students completed surveys to provide data to the researcher as a means to address the research questions. Questionnaire assessments were administered in three different phases; pre-study, mid-study, and post-study. Each of the assessments included a single questionnaire comprised of different scales. Pre-study surveys included scales to examine student enjoyment, self-efficacy, intention to enroll in optional PE, whereas post-unit surveys included these same measures and one qualitative measure to assess student likes/dislikes of TGfU. Surveys implemented mid-study asked students to respond to statements focusing on self-efficacy and enjoyment. All three questionnaires also included measures of several scales not related to this study's purpose.

Surveys were completed during regularly scheduled PE class time under teacher and researcher supervision. A scripted protocol introduced the surveys and provided the necessary instructions which ensured that all students involved in the research received the same instructions. The pre-study survey was delivered to the participants the week before the unit to establish a baseline measure and provide demographic information. The week following the administration of the pre-study survey, participating teachers instructed their students through the developed TGfU lesson plan. Two mid-study surveys were administered during the unit on the last day of each week (Friday of the first

week and Thursday of the second week) to allow for the enjoyment and self-efficacy to be periodically assessed. Aside from these two moments where students answered questions during the unit, students were only responsible for participating in the lessons carried out by their PE teacher. Post-study questionnaires were delivered the week following the completion of the unit which enabled students to have a break to remove themselves from the unit and reflect back upon it in order to respond to the questions.

Measures

Demographics. Students first completed questions regarding personal characteristics, such as age, gender and any factors limiting their ability to participate in PE, on a Demographics Questionnaire (DQ). The demographics section of the questionnaire also collected additional data unrelated to the purpose of this study. This portion of the questionnaire was quantitative in nature, requiring students to provide basic identification information to the researcher. The information provided in this questionnaire is a means of confidentially (without names) tracking student responses on all questionnaires in order to preserve student confidentiality in the research. It was also used to track the student demographic information to report about the sample. This measure has been previously used in research (e.g. Lodewyk, Winne, & Jamieson-Noel, 2009; Lodewyk & Pybus, 2013). For the purposes of this study, slight modifications of the measure were made.

Enjoyment. The Physical Activity Enjoyment Scale (PACES), developed by Kendzierski and DeCarlo (1991) is a measure to assess the enjoyment of individuals participating in physically active pursuits. The PACES was initially developed to provide a valid and reliable means to assess college students' (Motl, Dishman, Saunders, Dowda,

Felton, & Pate, 2001), enjoyment of physical activity participation. Motl et al. (2001) noted that the validity of the PACES was not established with youth participants, particularly females, and modified the original measure to help address adolescents and female participants in PE. Dishman, Motl, Sallis, Dunn, Birnbaum et al. (2005) further modified the PACES used by Motl et al. (2001) to create the Shortened-Physical Activity Enjoyment Scale (S-PACES). Various uses of the measure have demonstrated that it possesses an adequate factorial and predictive validity with an internal consistency (i.e. alpha coefficient) ranging from .77 to .86 (Dishman et al., 2005; Paxton, Nigg, Motl, Yamashita, Chung, Battista & Chang, 2008; Nicaise & Kahan, 2013; Gao, Zhang, & Podlog, 2014) representing minimal variance between gender and other personal factors (e.g. age and religion) and across time. Based upon the research and the evidence supporting the internal validity of the S-PACES measure, it is a useful and effective tool to be used in the assessment of youth enjoyment within PE classes (Motl et al., 2001).

The S-PACES measure is comprised of 16 statements (seven negative and nine positive) which are ranked on a 5-point Likert-style scale; from 1 (disagree a lot) to 5 (agree a lot). The positively worded statements were excluded in this study to remove burden of responding to a large number of items from the participants as they are younger students and may not have the attention span to complete the 16 items associated with this scale along with the other items. This was also performed by Motl et al. (2001) and Dishman et al. (2005) with no effect on the validity of the measure. Students were asked to rate their enjoyment based on the seven negatively worded items provided in their questionnaire. The stem for the items on the pre-study questionnaire was "In physical education class…" and the stem for the mid-study and post-study questionnaires were "In

this unit of my physical education class". Student responses were to items such as "I feel bored" ranked on a 5-point scale.

To better understand the underlying reasons why students may have enjoyed or not enjoyed TGfU as a means of learning in PE, one qualitative question was used. A single open-ended question was used to reveal the opinions the students held regarding TGfU. Students were reminded and encouraged to write both their positive and negative perceptions, and directed to consider their just completed unit of PE. The item asked students: "Please explain the main reasons why you liked or did not like this past games unit in PE". This question is similar to questions used by Lodewyk and Pybus (2013) to assess student perceptions and enjoyment of PE although, for the purposes of this study, the two questions used by Lodewyk and Pybus (2013) were condensed into one.

Self-Efficacy. The Motivated Strategies for Learning Questionnaire (MSLQ) contains a measure that is a valid assessment of an individual's self-efficacy. Development of the MSLQ began in the USA in 1986 and after testing and revision was finalized in 1991 (Pintrich, Smith, Garcia, & McKeachie, 1991; Duncan & McKeachie, 2005). This item was originally produced to assess university students' motivation in an attempt to improve student learning (Duncan & McKeachie, 2005) and was tested across a wide sample of students from varying post-secondary institutions (i.e. public university, liberal arts college and community college). Revisions were made after initial uses of the MSLQ (Pintrich et al., 1991). The MSLQ contains several different measures which address motivation (e.g. self-efficacy, task value), learning strategies (e.g. rehearsal, critical thinking), and management (e.g. effort regulation, help seeking). These measures

amount to 81 items which can be used together or the scales can be used individually

(Duncan & McKeachie, 2005).

For the purposes of this study, the self-efficacy scale was the only scale used from

the MSLQ. The self-efficacy scale consists of two subscales called self-efficacy for

learning and self-efficacy for performance. Since TGfU incorporates both the learning of

cognitive aspects of game play and the performance of strategies, both scales will be

utilized in this study. Initial testing of the self-efficacy scale of the MSLQ revealed an

alpha coefficient of .93 (Pintrich et al., 1991; Duncan & McKeachie, 2005). Since the

initial development and testing of the MSLQ, the self-efficacy scale has been used in

various studies with an internal validity ranging from .85 to .90 Its previous uses have

also represented the wide applicability of the self-efficacy scale of the MSLQ in the form

of a variety of different individuals (based on age, gender, ethnicity) and domains (e.g.

psychology, biology) across time (Coutinho & Neuman, 2008; Köksal, 2009; Arslan,

2012; Yailagh, Birgani, Boostani, & Hajiyakhchali, 2013; Lodewyk & Pybus, 2013).

The self-efficacy portion of the MSLQ is made up of 8 self-report items which are

ranked on a seven-point Likert-style scale; however, for this study, a five-point Likert

scale was used to create continuity with the other measures (from 1=disagree a lot; to

5=agree a lot). Students were asked to rate their beliefs in their ability to learn or perform

the skills and tactics taught in PE by answering the items in their questionnaire. Students

were specifically asked to reflect upon their most recent (specifically, the past unit)

experiences in PE. Sample items were: "I believe I will receive an excellent grade in PE"

and "I'm confident I can learn the basic skills and concepts taught in PE".

Intention for Future Participation in Physical Education. In order to assess student intention for future participation in PE, a single item measure was used. The use of one item reduces the burden on the students and is believed to still assess student intention appropriately (Xiang, McBride, Guan and Solmon, 2003). This single-item scale has demonstrated acceptable validity and reliability in physical education classes with varied age and location (Gao et al., 2009; Xiang et al., 2003).

The item asks students to rank their response on a 5-point Likert-style scale (1=not at all to 5=very much). The original question was designed for elementary aged students and asks student "When you get to high school, you will have choice whether you want to take physical education. How much would you want to take it?" (Xiang et al., 2003, p. 28). Since the participants in this study were already in high school, the question was reworded to ask "In grade 10, 11, and 12 you will have a choice whether you want to take physical education. How much would you want to take it?" This re-wording still reflected the original question while being more specific about when PE is optional.

Data Analysis

Quantitative Analysis. In order to analyze the gathered data, The Statistical Program for the Social Sciences (SPSS; version 22) was used. Any individual missing cases were replaced using the mean of nearby points, however if cases were missing due to an incomplete survey the cases were left blank. Descriptive analyses were then performed in order to test whether the data conformed to the statistical assumptions, as recommended by Andy Field (2013). Items from the S-PACES scale for enjoyment were reverse scored so that their negative valence was shifted to a positive valence. Next,

means for all scales were calculated. The sample was also dichotomized to examine both upper and lower half of each measure. Internal consistency reliability coefficients were also computed for self-efficacy and enjoyment.

As students provided information about the measures multiple times over the course of the study, a repeated measures analysis of variance (RM-ANOVA) was used, as recommended by Lamb (2003). Carry-over effects are one limitation associated with the repeated measures design; however, the questions that students answered were counterbalanced, which is a method used to alleviate this issue (Lamb, 2003; Field, 2013). Students independently completed the questionnaires in an attempt to meet the assumption of independence. Since data was collected multiple times from each participant, this assumption will be violated due to the effect the individual has on their own responses; this may cause an "overestimation of the true probability" (Lamb, 2003, p. 13). Repeated-measures ANOVAs assume there is a homogeneity of covariance, or sphericity, meaning the variation within one person's responses over time is relatively equal (Field, 1998; Field, 2013; Lamb, 2003). Violations of this assumption can result in the overestimation of the significance of the statistic (Lamb, 2003).

Qualitative Data Analysis. Creswell's (2013) qualitative data analysis procedure was used to analyze the data from the single open-ended (qualitative) item. This process involved multiple steps of increasing the specificity with which the data was grouped. Initially data was read through as an entire set to attain an understanding of what has been communicated by the entire sample. All of the data was then re-read and major ideas or themes were considered based upon the data set. Ideas which were repeated in the data became the categories (or themes, used interchangeably) for data analysis. With the list of

these categories, data points were placed into categories which they were related. Statements from students may have been placed into multiple themes depending on their relevance to each of the themes. Once all the data points were categorized into the themes, more specific themes for each category were developed; these new, more specific, themes will inform the larger category in which they are a member. This process is considered to be the "data analysis spiral" (Creswell, 2013, p. 182-188), or a layered approach (Ellis, 1996). This method of analysis is commonly used by researchers in the qualitative field or those examining qualitative data in mixed methods approaches (Creswell, 2013). Lodewyk and Pybus (2013) and Ellis (1996) are examples of researchers who have successfully employed this method of data analysis in their research.

In this study, the researcher performed the data analysis. This presents potential bias in the validity and reliability of the analysis as he is a PE and teacher education graduate, who has made presentations about TGfU in Canada and internationally. He is also an individual who had many positive experiences with PE as a student in elementary and secondary school which has influenced his choice of post-secondary education. These statements are an attempt to clarify his potential bias as recommended by Creswell (2013). In an attempt to control for this bias, all statements were written and coded verbatim to remove the requirement of interpretation of what students mean in their statements.

As the researcher was performing the analysis, there is the potential for bias to be present in the coding of the data so inter-coder agreement (Creswell, 2013) was employed to improve the rater reliability. This process involved having an additional qualified

researcher (graduate student) from the same university and of a similar educational path (undergraduate and master's degrees in PE) that was not involved in the study code a small, randomly selected sample of the raw data (10% of the responses) based upon the original coding scale. After coding, codes were compared to identify similarities and differences. An inter-rater reliability of 93.75% was found which represented a highly consistent pattern of agreement (80% or higher; Creswell, 2013) and coding continued by the researcher as performed. Any cases which were discrepant were discussed until a classification can be reached, or a blending of the classifications occurred. This process is described by Miles and Huberman (1994) and Creswell (2013), and has previously been employed by researchers (e.g. Lodewyk & Pybus, 2013; Vink, Eskes, Lindeboom, van den Munchkhof, & Vermeulen, 2014).

Chapter 4 – Results

The goal of this research was to investigate whether a levels of and changes in grade nine students' enjoyment, self-efficacy and intentions to enroll in further PE as a function of participation in a Teaching Games for Understanding instructional unit. Scale means for enjoyment and self-efficacy were computed for the initial (baseline), for each of the three assessment periods during and following the TGfU unit, and for the composite mean comprised of the second, third and final assessments. A repeated measures analysis of variance (RM-ANOVA) was then performed to determine if there were any changes present between initial (baseline) feelings of enjoyment, self-efficacy and intentions to enroll, and the composite mean. Finally, an analysis of students' opinions regarding their likes and dislikes of the unit they participated in was performed. This mixed methods approach to analyzing the data was done to further understand the quantitative data and provide support for the main findings.

Data Screening

All missing data points were revealed through the use of a frequency distribution test of all collected survey items. Any missing points were replaced with the mean value of the closest eight data points of the same question (Tabachnick & Fidell, 1996). All negatively worded items from the questionnaires were recoded to be expressed positively in an effort to maintain consistency with the other measured items. The S-PACES scale, which measured enjoyment, was the only scale which required re-coding; all items on this scale were negatively worded and required re-coding to be made positive.

Field (2013) suggests that Cronbach's Alpha (α) is a commonly used to measure the reliability of scales. The internal consistency reliability coefficients for each scale

were computed for both scales at all time periods. The internal reliability for enjoyment at baseline was 0.84 and the other time points were >0.86; additionally, Cronbach's alpha for self-efficacy at baseline was 0.92 and all other time points were >0.91. The internal consistency reliability at all time periods met the previously established acceptable criteria of >0.70 (Tavakol & Dennick, 2011; Schmitt, 1996). Scale means for both enjoyment and self-efficacy were calculated at all time points, along with the mean of responses of surveys 2 (first mid-unit survey), 3 (second mid-unit survey), and 4 (post-unit survey). Means for these items were calculated to control for students who missed any of the surveys due to absences from class. They were also used as the fluctuations in enjoyment and self-efficacy over time were not important to the study; rather, the focus was on if there was an overall change since before the unit commenced. Intentions to enroll did not require finding the means as it was a one-item measure and was only administered on pre-unit and post-unit surveys.

The normality of enjoyment, self-efficacy and intentions to enroll were analyzed through the examination of skewness and kurtosis and a visual inspection of a histogram (Osborne, 2002; Field, 2013; Tabachnick & Fidell, 1996). Visual inspection of the histograms for enjoyment suggested a shift from normality in the data, this was confirmed by the value of kurtosis = 5.822. Values between +/- 3 are considered to be acceptable for a sample size similar to this study's (Kim, 2013). Due to an abnormal distribution in the results of the enjoyment scale, a data transformation was performed to alter the distribution to acceptable levels. The data was first reflected to account for the negative skew, then a square root transformation was performed (which did not remedy the distribution), so finally a log transformation was performed which met the criteria for

normality (Field, 2013; Osborne, 2002; Tabachnick & Fidell, 1996). In other words, the values for kurtosis fell within the acceptable range (pre-unit = 1.173; the mean of 2, 3 and post-unit = 1.08). It is important to note this transformation of the enjoyment scale in interpreting the results.

Data for both self-efficacy and intentions to enroll was normally distributed, per the visual inspection and skewness/kurtosis values falling within an appropriate range (+/-3). As there was no shift from normality, transformations were not required. The sample was also dichotomized to group participants into lower and upper halves of initial enjoyment, self-efficacy, and intentions to enroll and examine how these subsamples differed in these scales over time as a function of the TGfU unit. The data for each of the subsamples was normally distributed for both time periods as values for kurtosis and skewness were acceptable (< 3).

Quantitative Analysis

One-way repeated measures analysis of variance (RM-ANOVA) ($p < .01$) were conducted to examine the changes in reported enjoyment, self-efficacy, and intentions to enroll of both ninth-grade boys and girls over the TGfU unit. When conducting a RM-ANOVA it is assumed that the variance between one participant's responses (across time points) is equal to the variance of other participants' responses over time; this is known as the assumption of sphericity, which if violated will create a loss of power (Field, 1998; Field, 2013). For sphericity to be an issue, there must be at least three conditions (Field, 2013); as the data analysis only examined two points in time, pre-unit against mean of first week survey, second week survey and post-unit survey, the assumption of sphericity is upheld.

Changes in enjoyment over time. A RM-ANOVA was performed on the scale means of enjoyment pre-unit and mean of secondary time period responses (mid unit week 1 and 2, post-unit). The RM-ANOVA examining enjoyment found no significant differences in enjoyment across time periods $F(1, 70) = 3.01$, $p > .087$, $\eta_p^2 = .041$. The sample was dichotomized and RM-ANOVA's were again performed to examine if there were any changes in enjoyment over time (pre and composite) within the upper and lower enjoyment groups. There were no significant differences for students who reported initially low feelings of enjoyment [$F(1, 34) = 2.63$, $p > .114$, $\eta_p^2 = .072$]; however, students who initially reported high feelings of enjoyment were found to have significantly lower composite (within and post-unit) enjoyment compared to their initial (pre-unit) level; $F(1,35) = 27.49$, $p < .000$, $\eta_p^2 = .44$.

Changes in self-efficacy over time. A RM-ANOVA revealed no significant difference in the participants' self-efficacy over time; $F(1,70) = 0.03$, $p > .864$, $\eta_p^2 = 0$. It was also revealed that there were no significant differences for either the participants who initially reported low feelings self-efficacy [$F(1,34) = .007$, $p > .933$, $\eta_p^2 = .00$], or initially reported high feelings of self-efficacy [$F(1,34) = 0.19$, $p > .663$, $\eta_p^2 = .006$] when the sample was dichotomized.

Changes in intentions to enroll. No significant differences in intentions to enroll were found when an RM-ANOVA was performed; $F(1,65) = .191$, $p > .664$, $\eta_p^2 = .003$. Participants who reported lower intentions to enroll prior to the TGfU unit also displayed no significant differences over time; $F(1,27) = .83$, $p > .371$, $\eta_p^2 = .03$. Similarly, participants who reported higher intentions to enroll prior to the unit displayed no significant difference in intentions to enroll, $F(1, 37) = 3.71$, $p > .062$, $\eta_p^2 = .09$).

Qualitative Analysis

As reported earlier, all participants' written responses were reviewed through an exploratory lens to better understand what ninth grade students like and dislike about the TGfU instructional model. Of the 71 students participating in this study, 66 of responded to the qualitative item. Reasons for not responding to the question included both being absent on the day of this item was collected, as well as students abstaining from answering. Responses could be positive or negative, and some students chose to include both positive and negative thoughts regarding the unit in their responses. Student responses occasionally fell into multiple subthemes.

Student likes. The 'student likes' category includes all responses that expressed a positive connotation to the TGfU unit. In total, 55 of the responses included some aspect of the unit being liked, or a positive connotation to the unit which corresponds to 83.3% of responses being positive in some way. Reasons that students liked the unit included 'Fun', the 'Games', 'Active', 'Skill' development, 'Learning/Understanding', some aspect of the 'Affective Domain', 'Competition' and 'Tactics/Strategies'. The most common themes which arose in students responses were 'Fun' and 'Games', with 33.3% of positive responses falling into each of these themes.

A total of 14 students reported that they found the games to be fun, multiple participants stating simply, 'the games were fun'; while one participant chose to mention the specific game by saying 'the Frisbee game was fun'. In addition to games being fun, participants found it fun to play and be active during the unit. One mentioned that the unit let the class 'get active in a fun way', others described the team aspect of the activities as contributing to a fun environment, and one participant described the social responsibility

of making the unit fun for others by stating, 'we all worked in teams and made it more fun for each other'. Additionally, 6 responses simply stated that the unit was fun without giving any further explanation as to why it may have been fun or what was fun about it.

The games that were played were also a common reason for students liking the unit, 33.3% of responses fell into this category. Aside from the games being fun, students reported liking the related nature of the games which allowed for progression within the lesson/unit. One student reported that the similarity in games allowed them to 'understand new [games] easier', while another mentioned that they enjoyed that the activities were 'similar to other games played'. Students also seemed to enjoy the challenge level of the games for a variety of reasons. Some enjoyed that the games were simple to play, while others enjoyed that the games were more challenging. One student described that the smaller games allowed for a more appropriate level of competition because they could 'play against other people around your skill level rather than getting destroyed by the really athletic people in games like soccer'.

Some aspect of affective domain was mentioned in 27.3% of comments with the majority of these comments reflecting teamwork (16.7% of total comments) and interacting with other students specifically in teams (12.1% of total comments). Some students plainly mentioned the teamwork (e.g. 'I really liked the teamwork'), while others explained, for example, that teamwork is a 'very valuable [trait] to use in sports'. Teamwork is a skill, and in addition to the affective domain, 15.2% of responses mentioned skills as being something they liked about the unit. The skills theme was broken down further into the subthemes of life skills (13.6%) and physical skills (3%). Life skills mentioned included 'problem-solving', 'teamwork', and 'leadership skills'.

Participants also mentioned that the learning which occurred during the unit was something they liked (16.7% of responses). The majority of these responses (10.6% of total responses) were centred on the learning of tactics and strategies. Some simply stated that they liked learning about strategies whereas others mentioned the usefulness of learning tactics to apply in other situations, and still others reported specific strategies such as 'how to make space'. In addition to the learning of tactics and strategies, participants mentioned that they liked learning skills ('I got to work on my throw'), while others mentioned that gaining a better understanding of games (e.g. 'it gave me a better understanding of a few sports', and 'helped you to understand the new [games]') was what they liked the most about the unit.

Student dislikes. Any response which contained a statement with a negative connotation was included in the student dislikes theme before being further classified into subthemes; a total of 31 responses (46.9%) involved some sort of negative connotation. Responses which fell into the student dislike theme may have also included a positive statement and subsequently falling into both likes and dislikes themes. Reoccurring themes for why participants disliked the unit included the games, it was boring, the learning, the amount of activity, prior experiences, and that it wasn't regular PE or sports.

The games were the most commonly cited (30.3% of total responses) reason for the unit not being enjoyed for a variety of reasons. Participants reported the games as being repetitive (e.g. 'I didn't like that they were somewhat repetitive', "it started to get boring playing almost the same thing over and over again') and this was a reason that they disliked the TGfU unit. Other participants found the games to be confusing or unfamiliar to them because of this they did not like the unit; 'some made no sense', 'I

found it a little confusing at first', and 'I would rather play what everyone knows' are a few examples of comments related to students' dislike due to the confusing nature of the games. 'I didn't like some of the games either because I didn't understand or they were challenging' was one response which spoke to the games being confusing, but it also suggested that participants did not like the challenge level the games provided. While that statement speaks to the games being too difficult, other participants declared that the games were too simple (e.g., 'I enjoyed some of the games, some just too simple or boring'), indicating that the challenge level did not suit all participants. Students also reported that some of the games were boring making reference to specific games (e.g. 'the Frisbee games were boring'), while others claimed that the games in general were boring (e.g. I didn't like the games that much, I found a lot of them boring', or 'I liked the games at first but then after a while it started to get boring and now the games we play are now boring').

The unit being boring was the second most common reason (19.7% of total responses) why participants disliked the unit. The games were the primary reason cited for being boring; yet, students also mentioned that the unit was boring in general (e.g. 'some of the things in this unit were boring and just things I don't really like to do'). Some of the participants discussed their previous experience in sports and games and how the skills and tactics they were learning were things they already knew how to do (e.g. 'I found them a little boring because they were about creating space, getting open, defending and attacking, stuff like that and I play soccer so I already knew about those things and how to do them'), while other participants mentioned that stopping to have discussions was something they did not like (e.g. 'I was ok when we played games but

was boring when we learned how to find open space like I already knew how to do that', 'I didn't like the questions that went along with the games') even in spite of recognizing that it was important to learn the goal of the lesson or activity (e.g. 'I did not really like when we had to stop in the middle of a game to talk about the different elements of the game. I know that it is necessary to know, but it was just a little boring').

The games and the unit being boring were the primary reasons why the unit was disliked by students; to a much lesser extent (6.1%) the activity level was disliked by students. Some students wanted more activity in the lessons and suggested that they 'did not get any physical activity out of it' or they 'wish there was more playing', while others reported not enjoying being physically active at all ('I do not enjoy physical activity in general, so I do not like gym most of the time'). Students also disliked having to learn (6.1%), which was previously described as being boring. Another student stated, 'I much prefer just playing sports rather than something that we have to learn, I would rather play what everyone knows', while another described that they did not understand the benefit of what was being learned ('I disliked this past games unit because it is pointless and I did not learn anything useful').

Likes and dislikes of students reporting higher enjoyment in PE. In order to better understand the quantitative data the students who were found to be in the higher half of initially reported (baseline) enjoyment were analyzed separately; this was done as a means to further understand the statistically significant result in this subsample and discover potential reasons why their enjoyment decreased over the course of the unit. In total 37 participants fell into the higher enjoyment group and 34 students responded to the qualitative question. This group of students liked the unit for the same reasons as the

entire sample; it was fun, the games, it was active, they learned something, reasons within

the affective domain, and skill development.

The fun that the unit provided was the most commonly reported reason for liking

the unit, 32.4% of the responses mentioned fun. The games were the most commonly

mentioned reason the unit was fun (e.g., 'I liked this unit because it allowed us as a class

to work together and play fun team games', '[the games] were all really fun') but students

also mentioned that the unit itself was enjoyable. Finally, the opportunity to play

with/against their classmates or in teams (e.g., 'the best and more fun way was the game

where I play against my friends') was reported as a reason for liking the unit. While the

games were reported as fun, some participants chose to describe the games themselves

(not just fun) as a reason they enjoyed the unit. The theme of games was reported in

32.4% of the responses in this subsample. Students appreciated that the games were fun

and they also liked that the games were related to one another (e.g., 'I liked how the

games were kind of related', 'similar to other games'). Students also mentioned that they

simply liked the games and offered no further explanation of their reasoning. Some of the

students described the games which they liked, relating their likes to the specific game,

the team aspect of the games, and the challenge level of the games (e.g., [The games]

were easy and fun. Easy games are more to play in my opinion'). The activity level

offered in the unit was another reason reported for liking the unit; 23.5% of responses fell

into this theme. The majority of responses in this theme simply mentioned liking being

active (e.g., 'they had everyone moving', 'they got me up and moving. It's nice to have

time to move around in a day full of sitting', and 'you always got to be active'); however,

one participant described that this activity level was linked to them having fun ('allowed us to get active in a fun way').

The affective domain was mentioned in 29.4% of the comments with students appreciating that they got to use or develop teamwork skills and interact with others in the class. Some students described that the aspect of working with others was the primary factor they liked about the unit (e.g., 'I liked this unit because it allowed us as a class to work together'), while other participants simply mentioned teamwork as being a factor contributing to their liking the TGfU unit. One student chose to go into more detail by describing the benefit of learning about teamwork; they wrote '[the games] taught you about teamwork and strategy, which are very valuable to use in sports', suggesting they thought deeper about the activities than simply participating at face value. Both physical skills and life skills were also described by the participants as a reason for liking the unit; 26.5% of comments reflected these students liking the skills taught in TGfU. Life skills were more commonly discussed by the participants. Some of the participants focused on the interpersonal skills such as teamwork, while other students mentioned more critical and creative thinking skills. Problem solving was mentioned as one of these thinking skills; however, was not described further than simply stating 'problem solving'. Other students appreciated the fact that the unit required them to think about different parts of the games. For instance, one student reported 'I like thinking and discussions (how to make space)', while another described that they enjoyed 'having to think about what techniques were needed for us to succeed'. Similarly, it was reported that a feature liked by the participants was getting to learn about tactics and strategies in a way which would help them better understand games. A total of 14.7% of comments reflected this opinion,

with 8.8% of the students mentioning they liked learning about the tactic of creating space.

Similar to the full sample, the games were reported as being the main reason (26.5% of responses) why students disliked the unit and the unit being boring was the second highest (20.5% of responses) attribution for why the unit was not enjoyed. These participants found the games/activities to be repetitive; however, provided no further description or reasoning for why they did not like the unit simply stating they found the activities repetitive (e.g., 'if felt very repetitive', 'I didn't like that they were somewhat repetitive'). Students also reported being confused by the games especially those that were unfamiliar to them. They offered little explanation as to what was confusing; for instance, one student wrote 'some [games] made no sense', while another wrote 'some of [the games] were really confusing'. Some, however, described the instructions as being what confused them and why they did not like the unit. Finally, games were reported on several occasions to be boring. Similar to previous descriptions, the students offered no explanation as to why they found the games boring, or what was boring about the games.

The unit being boring was the second most cited reason for displeasure with the unit. More specifically, the games were described as being what was boring as was previously discussed; yet, students also claimed the unit itself as being boring. Some of the students described their previous experiences in sport and physical activity as contributing to their boredom with the unit (e.g., 'boring when we learned how to find open space like I already knew how to do that'). Other students described having to stop to have discussions about the lesson's theme as being the boring part of the unit (e.g., 'I didn't like the questions that went along with the games'). One student mentioned

stopping the games as being boring but they understood why it was necessary to do this; they wrote 'I did not really like when we had to stop in the middle of a game to talk about the different elements of the game. I know that it is necessary to know, but it was just a little boring'. The students in the upper half of initially (baseline) reported enjoyment shared some of the opinions of the full sample while also providing their own unique opinions as to why the unit was disliked.

Chapter 5 – Discussion

There were five main objectives for this research study. The first three examined associations between participation in a TGfU unit and ninth-grade students' enjoyment self-efficacy, and intentions to enroll in future PE. The fourth determined if there were significant student differences in self-efficacy and enjoyment during a TGfU unit among students who typically do not enjoy PE or do not feel efficacious in the PE setting. Finally, the aspects of TGfU that students liked and disliked were examined. All of these objectives were chosen to increase understanding about the potential role of TGfU in PE research and how it might relate to students' motivation and decision to discontinue PE (e.g. Sulz et al., 2010; Lodewyk & Pybus, 2013). Based on these objectives this chapter serves to discuss the results of the study, speculate potential causes of the results, convey the limitations of the study, and suggest future directions for PE research.

Relationship between Enjoyment and TGfU

There was a non-significant relationship between enjoyment and TGfU suggesting that over the course of the unit student enjoyment remained consistent regardless of participating in a new learning environment. This finding contradicts some of the existing research. For instance, Jones et al. (2010) found that students aged 11-14 (the upper half of their sample being a similar age to this study's sample) believed that TGfU was more enjoyable than previous PE experiences. Students who initially reported lower feelings of enjoyment in the sample also did not display significant differences in enjoyment across time points. Further, Light (2002b, 2003b) found that individuals with previously negative experiences in sport and physical activity (namely lower enjoyment) enjoyed participation in TGfU lessons more than participants who previously experienced PE

more positively (higher enjoyment). Similarly, Alison and Thorpe (1997) reported that underserved students responded better to TGfU participation than traditional skills based teaching.

Dyson (2005) asserts that it takes time for students to get accustomed to a new form of learning which may have been the case in this unit. These students may not have had enough time to acclimate themselves to the TGfU unit to fully enjoy what it offers. Jones et al.'s (2010) study took place over a six-week period, whereas this study only took place over two weeks which could be the cause of the discrepancy between their results and the results of the present study. Light (2003a) found that it took some time for the participants to begin to enjoy TGfU lessons that appeared to be a significant change from what the participants had been accustomed. If students in the present study would have engaged in a longer unit, it is possible that there could have been changes in their level of enjoyment.

There were significant changes in enjoyment across the unit for students who initially (baseline) reported higher enjoyment in PE; interestingly, these changes depicted a tendency for this subsample to enjoy PE less as the TGfU unit progressed. These findings are in opposition to the findings of previous research such as Mandigo et al. (2008) and Jones et al. (2010) who found enjoyment to increase over time during participation in TGfU lessons. It is possible that the group of students who reported higher initial feelings of enjoyment in PE responded less favourably to TGfU as it was an unfamiliar way for them to learn. This new method was not the typical sports/PE class they had grown accustomed to and had success with. TGfU may have required them to stop, think, and engage in a more cognitive process than previous experiences something

these students were not prepared for or did not meet their personal conceptions of how PE should be performed.

It is a noteworthy finding that the mean value for enjoyment was consistently high across all time points (e.g., prior to transformation pre-unit mean enjoyment was 4.47/5). The high pre-unit mean for enjoyment could have played a role in the non-significant findings. All three of the teachers in the study typically used more play-based teaching styles which allowed their students to participate in more games than skill development. These teaching methods are similar to TGfU or other game-centred approaches which use games as the means to develop tactics or skills and during their regular class the teachers wanted the students to spend as much time playing as possible. Familiarity to this style of learning may have influenced reported scores of enjoyment, as students might not have been able to discern differences between TGfU and their typical PE class's structure.

Relationship between Self-Efficacy and TGfU

In regards to self-efficacy, this study revealed no significant differences after participation in a TGfU unit for the total sample or subsamples (those initially/at baseline low or high self-efficacy). These findings are contrary to what most of the previous research has revealed. For instance, Harrison et al. (2004) found that high-skilled and low-skilled university students felt higher levels of self-efficacy after participation in TGfU lessons. Similarly, Gubac-Collins' (2007) study found that participation in TGfU lessons resulted in higher feelings of self-efficacy for pre-service teachers.

The difference between previous findings and the findings from this study may have to do with the differences in the ages of participants. Both Gubac-Collins' and Harrison et al.'s studies used university-aged participants, whereas this study examined

the beliefs and feelings of ninth-grade students. It is also possible that the sample used in this study may be one which does not normally consider their feelings of efficacy during their participation in PE or other courses. Similar to enjoyment the contrast may have also come from high initially reported feelings of self-efficacy (mean of pre-unit self-efficacy was 4.08/5) rendering it more difficult to track significant changes.

Relationship between Intentions to Enroll in PE and TGfU

No significant differences were found in the sample or subsamples in intentions to enroll in further optional PE from before and after the TGfU unit. In other words, students' opinions on whether or not they would take PE again remained relatively static as a function of participation in the TGfU unit. TGfU or any of the methods used to teach students may not be a factor which influences students' desires to participate in PE. There is no known previous research that examines the relationship between TGfU and intentions to enroll. Based on the literature suggesting that enjoyment in sport, physical activity, or PE can be a predictor of enrollment or participation (e.g., Luke & Sinclair, 1991; Sulz et al., 2010; Smith & St. Pierre, 2009; Kidman & Lombardo, 2010), along with the literature finding TGfU participation to result in higher student enjoyment (e.g. Mandigo et al., 2008; Jones et al., 2010; Allison & Thorpe, 1997), it can be inferred that TGfU participation should increase students' desires to enroll in PE.

The results of this study might be due to the enormity of factors beyond the potential role of TGfU that might influence students' choices about whether to re-enroll in PE. For example, Lodewyk and Pybus (2013) and Sulz et al. (2010) suggest that some factors external to PE for not enrolling might include graduation requirements, scheduling conflicts, PE courses being full, and no relation between PE and career goals.

Students in this study may have been influenced about their intentions to enroll by disinterest in physical activity at the beginning of the course or unit. In fact, students completed course selection for the upcoming year during the first week of the unit which was unbeknownst to the researcher at the beginning of the study. Due to this factor students may have already made up their minds regarding whether or not they would enroll in PE in the future and responded to the item on the final questionnaire not considering whether they would be interested in enrolling in the future. The wording of the item assessing student intentions to enroll may also have caused confusion to students as their responses could be based on the interpretation of whether or not they were taking PE in the future rather than whether or not they would take it if they had the opportunity. Using interviews to determine student intentions to enroll could have been better suited to collect this information and better understand the factors influencing students decisions to enroll or not and the influence the instructional model (or unit) might play on these intentions.

Student Likes of TGfU

Student responses to the qualitative question allowed for a better understanding of factors that contribute to students' likes and dislikes of the TGfU instructional model. These responses may help to further explain why students enjoyed (or did not enjoy) participating in TGfU, or factors which should be considered by educators when planning lessons within the PE setting. Analysis of the data revealed several themes that signal why students liked participating in a TGfU unit. The most prominent of these themes were *fun* and *games*. These major themes corroborate research previously done in several settings, such as by Nathan and Haynes (2013), Wright, McNeill, and Fry (2009), and

Mandigo et al., (2008). Participants in Nathan and Haynes' (2010) study reported that they enjoyed being put in game-like situations; however, their study did not follow TGfU alone as it incorporated an additional teaching model. Similarly, Wright, McNeill and Fry's (2009) participants liked getting to play the games and found TGfU and game-centred approaches to be more fun than traditional methods of learning in PE. Students in the study by Mandigo et al. (2008) followed the six-step TGfU model (similar to this study) and reported liking TGfU mainly because it was fun and because of the social interaction and level of challenge that students experienced. The latter findings also align with the findings in the present study as students reported both appropriate levels of challenge within the games and getting to work with others on their team as something they liked.

Student Dislikes of TGfU

Not only did students explain positive things about TGfU that contributed to their perceptions of the instructional model they also reported to a much lesser extent their dislikes of certain aspects of the unit. Students primarily disliked the TGfU unit because they found the games to be repetitive, confusing, not appropriately challenging, and often boring. All of these findings reflect the small body of prior research in this area. For instance, participants in Wright, McNeill and Fry's (2009) study described not liking the games in their unit; while others (e.g. Mandigo et al., 2008 and Fry et al., 2010) found that some participants reported TGfU as boring. Findings such as the games in TGfU being repetitive are novel to this study and warrant further research with this age-group.

Aside from the games being boring, students also reported TGfU in general to be boring as a reason why they did not like the unit. Again, this is reflective of previous

findings in similar research conducted with elementary school students. Specific

subthemes in this study, such as students holding previous experience or participation in

discussions, were also confirmed by prior research. Wright, McNeill and Fry (2009)

found some of their participants did not like the discussion aspects of TGfU since they

found that part of the lesson boring. Some of Fry et al.'s (2009) participants found game-

centered approaches did not add any value to their skills as they had previously learned

what was being taught which contributed to this approach being boring. This could be an

issue regardless of TGfU as students come into the classes with a varying degree of prior

experience and abilities. Future work should examine student perceptions of PE prior to

instructional model intervention to determine if changes in level of engagement occurred

from baseline.

Being boring, the games, and the novel learning environment can all account for

why the students who initially (baseline) enjoy PE did not like TGfU. These students

already have their needs met in PE with the class being designed in a way which they

enjoy. When students enjoy sports/PE they are inclined to participate in that activity

further (e.g., Kidman & Lombardo, 2010) in a similar way; as such, the ninth-grade

students in this study who enjoyed PE initially (baseline) would like to have a class

which was familiar to them and performed in the way they typically enjoy. While Light

(2002b) reported more experienced/skilled students liking TGfU, his participants were

pre-service teachers whose enjoyment was likely "influenced by their increased maturity"

(p. 291). Students in the present study may have lacked the maturity to engage with TGfU

with an open mind contributing to their decreased enjoyment.

It is a challenge for teachers to take into account the differing levels of abilities of each of their students and plan lessons which are appropriate for every student; however, inclusivity is something which teachers should strive for. The findings of this study suggest that some students' abilities were not challenged or improved in the TGfU unit. In spite of that, the flexible nature of TGfU should allow for it to be modified to meet each student's needs through extensions and simplifications. Future research could be made more authentic if the teachers in the study fully design the lessons after being taught about TGfU rather than having the researcher design the lessons for the teachers as in this study.

Likes and Dislikes of Students Reporting Lower Enjoyment

Students who initially (baseline) reported higher feelings of enjoyment towards PE responded to the qualitative item in a very similar manner to the entire sample. Students who were higher in enjoyment for PE at baseline also liked TGfU mainly for the fun that it provided. Additionally, the students liked that the unit was active, skills were developed, the games played, and other reasons. No known previous research has specifically examined the students who enjoy PE more. While further research should examine both the students who typically enjoy PE and the marginalized (lower enjoyment) students' perceptions of TGfU, the present findings concerning student likes point to how TGfU can engage students who typically like PE.

The students who initially reported higher levels of enjoyment in PE also held similar opinions of their dislikes as the full sample. This subsample reported the unit as being boring and the games were reported as the primary reason for disliking the unit. In both of these cases the higher enjoyment subsample (half of the total sample) accounted

for half of all responses in the themes (e.g., 9 students from subsample reported the games as being a reason why they disliked the unit, while 20 students in the full sample reported the games as being a reason for disliking the unit). There has been minimal qualitative research into student perceptions of TGfU and even less of this research has been devoted to students who typically enjoy PE. Based on the findings from the present study, students who reported higher enjoyment in PE disliked TGfU for the same reasons as the whole sample. Interestingly, only 13 of the students in the initially high enjoyment subsample (38.2%) reported something about the unit that they disliked. It would have been expected that more of the students in the subsample would report some negative feelings towards the TGfU unit as the quantitative data found this subsample to decrease in their enjoyment in PE after participation in TGfU. Due to the minimal previous work in this field, future research should examine student perceptions of TGfU (namely likes and dislikes), examining students within specific groups of others similar to them based on their enjoyment; this will allow for a better understanding of how to provide a physically active learning experience to this group of students that would best meet their needs.

Limitations

Limitations are inherent in any study and this study had several that were noteworthy. The first was the relatively short data collection period. Data collection took place over the course of one month, but only on one day per week (four in total). Additionally, the unit which exposed participants to TGfU only lasted for two weeks which may have limited the effect that it might have on students. Dyson (2005) postulates that it takes time for students and teachers to get used to engaging in the Tactical Games

model (a spin-off of TGfU) and this could also be the case with the use of TGfU. Students were asked to engage in a method of learning with which they were unfamiliar and it may take some time for them to become accustomed to this new method before gaining the full benefits TGfU has to offer. Gordon (2009) agreed with Dyson, suggesting that TGfU may be one model which requires more time to be implemented to be successful. The exposure to TGfU was relatively short; yet, some classes were also forced to miss additional classes due to unforeseen circumstances (e.g., PD days, course selection, and assemblies). All of these things are likely to occur in any school and may disrupt the flow of TGfU (or any unit) as lessons were designed to build upon one another to help students think through a thematic lens and solve problems similar to several games. More time in the unit may have accounted for these disruptions or prevented the impact they might have on student learning. With more time, the teachers would also have become increasingly adept at delivery of TGfU instruction.

The relative novelty of the model to the teachers was another limitation in the study. Training was conducted to introduce the teachers to the model and how to implement it; however, the length of the training they received was fairly short. This training involved a seminar where the teachers learned about the history of TGfU, how the model worked, and the pedagogical principles used to supplement the model. After the seminar, teachers participated in a lesson from the unit, to understand both the lesson and to see how TGfU in action, then they worked with the researcher to refine some of the lessons to best meet the needs of the individual classes. Since the teacher is the one who creates the learning environment and specifically facilitates the TGfU environment to draw students' attention to particular problems they would need to solve being unsure or lacking the

confidence or knowhow of delivering a relatively new model it is likely that the impact of

PE would continue to be the same as has always been found (Kirk, 2014). While the

training was relatively short, in-service teachers today would likely only be able to

receive a minimal amount of time for training of any kind. Perhaps the training must

occur in PE teacher education (PETE) programs to be better explained and for TGfU to

be better implemented in future classes.

      The context in which the research was conducted may have also been a limitation.

Some of the classes were fairly large (approximately 30 students) which could limit the

PE teacher's ability to modify activities to best meet the needs of all their students. It

could have also limited the depth with which students participated in discussions. With a

larger class a student who is less outgoing or less confident may be less likely to share

their opinions with the class. If the class size was smaller these students might be able to

be put into a position where they would share their opinions more readily.

      The specific physical setting may have also impacted how the students engaged

with TGfU. When classes took place in the small gym or balcony the physical space was

limited. These spaces required some students to sit off to the side for parts of the

activities in order for the students participating to benefit from the activities or perform

them safely. The students sitting off still had an equal opportunity to participate after their

peers; however, this limited the time all students were on task/engaging with the material

itself through participation in activities and limited their chances to enjoy the material.

Each space also presented its own distractions which may have limited the potential for

engagement in the material. Noises from construction, loud music, students getting to

choose the music, and the sight of other classes are just some of the distractions which

prevented students from full engagement with the material. While these are things that PE teachers are forced to accommodate for while teaching their classes they may prove to prevent students from learning or enjoying PE to its fullest.

There are limitations associated with using participant recall and self-reported data. Self-reported data can be unreliable as participants might have misunderstood questions or not answered the questions seriously as the questionnaires took some time away from participating in activities in PE. The scripted protocol reminded students to take the questionnaire seriously and to ask for clarification if necessary; however, students may not have heeded these instructions or not wished to ask for clarification. Self-reporting has been a validated method of research which is well established in previous research (e.g. Lodewyk & Pybus, 2009; Mandigo et al., 2008; Lodewyk & Gao, 2010; Motl, et al., 2001). Questionnaires which students completed contained the same scales and students could have recalled items over time. As students may have recalled questions they may have responded similarly at each time point due to their familiarity with the item. The use of scales, the structure of questionnaires, and the time between surveys were designed to reduce this effect. This is also a limitation of using repeated-measures tests, as participants begin to influence their own scores (Field, 2013), an alpha-level of .01 was used to counteract this issue.

The repeated measures analyzed the changes in scores from the pre-unit survey and a mean score of the remaining (mid-unit week 1, mid-unit week 2, and post-unit) surveys. Typically an RM-ANOVA would examine the change between each individual time point; however, this was not performed in this study and as such represents a caution in the interpretation and comparison of the present results to other studies. The reason for

the method of analysis in the present study is twofold. First, means were used in order to keep participants in the study. As the research was conducted within a school, occasionally participants might be absent from class on the day the surveys were conducted. Using means allowed for the participants to remain in the study (if they completed the pre-unit survey). Additionally, the goal of this research was not to track the fluctuations in enjoyment and self-efficacy over the course of the unit; rather, the aim was to determine if there was an overall change between student opinions prior to TGfU exposure and after being exposed to TGfU for a short period of time.

Data transformations were performed on the collected data for enjoyment due to legitimate concerns over its kurtosis and skewness. All interpretations and generalizations for the enjoyment information must therefore be made with that caution. Additional cautions towards generalizing findings should be made as a small sample from only one school was utilized in this study. The majority of students were of Caucasian descent and the school was situated in a suburban area with many middle-class families. Extension of findings to other areas (e.g., urban/rural schools, highly diverse populations, and different ages) should be done with caution as the current sample should be compared to one of a similar nature. Future research should examine a larger population of a more diverse nature before generalizations can accurately be made.

Future Research

Future research examining the effects of TGfU on student enjoyment, self-efficacy and intentions to enroll should follow a longer term of study. As Dyson (2005) and Gordon (2009) describe, it takes time for students and teachers to become accustomed to participating in a new method of learning. Over the course of a longer

period of time students may begin to understand the flow of a TGfU lesson and understand how their participation drives the lessons, with this understanding students may benefit more from TGfU. A longer term of study would also combat against any interruptions (e.g., assemblies, course selections) or distractions (e.g., construction) which may be present in a school. A longitudinal study examining the implementation of TGfU in PE classes from earlier elementary classes towards secondary school PE may also be an area for TGfU research to expand. If students are exposed to TGfU earlier their opinions of PE might also be formed earlier and their desires to engage in optional PE could be encouraged prior to their final required credit in PE; research has yet to examine TGfU in this way.

The role of a unit of study or prolonged period of study having TGfU supplemented with other similar game centered approaches (e.g., Sport Education, Games Sense, etc...) is another avenue for future research. Miller (2010) describes the benefit of using a broad variety of teaching approaches in the classroom and this may translate to the gymnasium. Understanding how TGfU is impacted by or impacts other teaching models might benefit educators in finding the best means of teaching PE in a way that students benefit from and enjoy.

For more generalizable findings, a larger and more diverse sample should be studied. Implementing TGfU and examining students from multiple schools and settings would be useful before findings can be better generalized to a larger population. In addition to examining TGfU in various schools, it may beneficial to examine implementation of TGfU inside special-education classrooms to determine if this model is suited to meeting the needs of this population while encouraging their lifelong

participation in physical activity. This study agrees with Harvey and Jarrett's (2014) claim that more research must be done on the relationship between game-centered approaches (TGfU in the case of this study) and special populations, such as those who are less gifted or confident (i.e. the marginalized); thus, it would be beneficial to determine which students are marginalized in PE and to examine ways to better meet their needs in PE.

Another future direction for research would be to extend the desires to enroll question to include both quantitative data (similar to this study) and qualitative data. While it is important to understand whether students would desire to enroll in PE if they had the choice; it is equally, if not more, important to understand why students choose to enroll in PE. Lodewyk and Pybus (2013) had success in understanding students' choices to enroll and the diverse factors which contribute to these desires through the use of their qualitative questioning. Future research centered around desires to enroll should consider the qualitative side of the question as it can help to inform educators and policy makers as to how to make PE more accessible and desirable for students to enroll, potentially contributing to these participants' physical literacy and positive feelings towards PE.

Conclusion

In conclusion, this study provides fresh insight into how students respond to a novel instructional model (TGfU) and may help inform physical educators in their practice. A mixed methods approach was employed to allow for a holistic understanding of students opinions and feelings within an authentic teacher-taught TGfU unit during PE.

Statistical analysis yielded minimal significant findings across all quantitative research objectives. These non-significant findings suggest that student enjoyment, self-

efficacy, and intentions to enroll are influenced by factors outside of how learning takes place in PE. Student enjoyment in PE was found to decrease over the course of a TGfU unit for students who reported initially (baseline) high enjoyment in PE, a finding novel to this study. More research is warranted in this field to confirm these findings and generalize them to the larger population. Future correlation or scientific designs would allow for better understanding on whether TGfU is the cause of this decrease in enjoyment. Qualitative results contradicted the quantitative findings as students reported liking more factors related to TGfU than they disliked. The qualitative results may, however, point to reasons why the students did not enjoy the unit (e.g., games being boring, stopping to have discussions). The holistic understanding that qualitative data affords should be employed in future research to further the understanding of how to best impact students in PE as teachers can take this information to employ in their practice.

The lack of research in how to best impact students' intentions to enroll and providing an enjoyable physical education experience drove this study; yet, still much work is to be done to understand how to impact these students and factors that contribution to their choices to enroll. Reform may be a daunting and risky task but it is required in order to provide the benefits which PE is capable of providing (Barker, 2010). A broader understanding of how students perceive PE, various instructional models, and the role that PE instructional models play on student feelings and opinions must be developed to help inform practice and encourage student enrollment to reverse the trend of decreasing participation in PE as reversal of this trend can help students to develop the ability and means to lead active and healthy lives.

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Tables

Table 1

Descriptive Statistics

		Pre-Unit			Mean of During and Post-Unit		
		Total	Low	High	Total	Low	High
Enjoyment	M	4.47	4.04	4.89	4.36	3.89	4.84
	SD	0.65	0.69	0.12	0.73	.78	.11
	N	71	35	36	71	36	35
Enjoyment (Transformed)	M	0.16	0.27	0.04	0.18	0.24	0.13
	SD	0.15	0.13	0.05	0.16	0.18	0.11
	N	71	35	36	71	35	36
Self-Efficacy	M	4.08	3.63	4.60	4.07	3.64	4.58
	SD	0.68	0.43	0.29	0.77	0.66	0.37
	N	71	35	35	71	35	35
Intentions to Enroll	M	3.61	2.57	4.37	3.56	2.77	4.14
	SD	1.07	0.69	0.49	1.18	1.17	0.81
	N	66	28	38	66	28	38

Note. Low and *High* refer to the lower and upper subsample (i.e., participants who fell into the lower half of responses and upper half of responses) for each variable. *Mean of During and Post-Unit* refer to the mean of the post-unit and two during unit assessments.

Table 2

Student Likes and Dislikes of TGfU (Full Sample)

	Theme	Subtheme
Likes	Fun	-Play and Activity -Games -Fun in general (nothing specific) -Social and Teams
	Games	-Related to one another -Novel -Nothing specific -Fun -Appropriate challenge -Specific games -Team games
	Active	-Nothing specific -A lot of activity
	Skills	-Life skills (e.g. problem solving) -Physical skills
	Learning/Understanding	-Tactics and strategies -Understanding games -Learning skills
	Discussion	
	Affective Domain	-Working in teams (teamwork) -Interaction with peers
Dislikes	Boring	-Previous experience -Games -Nothing specific -Stopping to discuss -Repetitive
	Games	-Confusing or unfamiliar -Challenge Level -Boring
	Prior Experience Not regular PE or Sports Activity level Learning	

Table 3

Students with Initially (at baseline) High Enjoyment Likes and Dislikes

	Theme	Subtheme
Like	Fun	-Games -Teams and Social -Nothing Specific -Chance to Play
	Games	-Related/Allow for progression -Fun -Nothing Specific
	Active	
	Skills	-Life Skills -Physical Skills
	Learning/Understanding	-Tactics and Strategies -Understanding Games
	Affective Domain	-Teamwork -Social Interaction with Peers
Dislikes	Boring	-Games -Stopping for discussions -Previous Experience
	Games	-Repetitive -Confusing/Unfamiliar -Boring
	Learning	

Appendix A

Cover Letter to School Principals and Department Heads

October 1, 2015

Principal and Health and Physical Education Department Head
School
District School Board

Dear Sir/Madam,

We are writing to request participation from some physical education teachers and students in their grade 9 physical education classes within your school in a study entitled *Investigating the Relationship between Teaching Games for Understanding and High School Physical Education Students' Enjoyment, Self-Efficacy, and Intentions to Enroll*. The study will be run by Dr. Ken Lodewyk, an associate professor in the Department of Kinesiology at Brock University, and Mr. Scott Robertson, a graduate student in the Master of Arts program at Brock University.

The general aim of this research is to discover if an instructional model for teaching games has an impact on student enjoyment in physical education and if this model might promote enrollment in further physical education.

This research involves volunteering students completing a questionnaire that will take approximately 10-15 minutes and is completed in their PE class one week before a 2 week team games unit. The students will also complete a shortened version (approximately 5 minutes) of that questionnaire twice during the team games unit. A fourth questionnaire (approximately 10-15 minutes) will be administered the week after the unit has been completed. The first questionnaire asks students to report their gender, ethnicity, age, and past grade in PE. It and the subsequent questionnaires ask students to rate (on a scale from 1-5) statements based on their agreement or disagreement with each one. The fourth questionnaire asks an additional question where students can share their thoughts about the games unit they just participated in. Students' involvement in the study will total on average 35 minutes of responding to surveys, while the rest of the time allocated to participating in team games lessons designed by the researchers and refined/led by the classroom teacher(s) who will receive professional development (led by the researchers) in Teaching Games for Understanding prior to the start of the study. Students who choose not to participate will work quietly along with the rest of the class on an alternative curricular activity designed with and approved by the classroom teacher.

This study has been reviewed and received clearance from the Research Ethics Board of Brock University (File #14-253) and the school board. There are no known or anticipated risks associated with participation in this study. Teachers' and students' participation in the study is completely voluntary and they may withdraw from the study at any time, for any reason. The data will remain confidential, and any completed questionnaires will not be accessible to the participant's teacher, nor will the data influence the student's grades. Participating schools/classes will receive a final written report with the overall results of the study, which may also be shared with teachers at district professional development workshops or in publication.

If you have any questions or concerns about this study please contact either Ken Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca or Scott Robertson at (519) 503-1905 or sr09qx@brocku.ca or Brock University's Research Ethics Officer (905-688-5550

ext. 3035 or reb@brocku.ca). We will contact you by phone in the following days to discuss our request. We are also available for a meeting if you would prefer that. Thank you very much for considering this request.

Sincerely,

Ken Lodewyk, Ph.D.   Scott Robertson, BPhed/BEd.

Appendix B

Letter of Invitation to Parent(s)/Guardian(s)

October 1, 2015

Dear Parent(s)/Guardian(s),

The following letter and consent form are to inform you a study we wish to conduct within your child's grade nine physical education class and to ask your permission for them to participate in the study. This research project is title: *Investigating the Relationship between Teaching Games for Understanding and High School Physical Education Students' Enjoyment, Self-Efficacy, and Intentions to Enroll*. The study will be run by Dr. Ken Lodewyk, an associate professor in the Department of Kinesiology at Brock University, and Mr. Scott Robertson, a graduate student in the Master of Arts (Physical Education) program at Brock University.

The general aim of this research is to discover if an alternative method of teaching games in physical education influences student enjoyment and if students who participate in lessons run this way would enroll in physical education in the future if they were able. This research involves students, who volunteer, completing a questionnaire that will take approximately 10-15 minutes and is completed in their PE class one week before a two-week long team games unit. The students will also complete a shortened version (approximately 5 minutes) of that questionnaire twice during the team games unit. A fourth questionnaire (approximately 10-15 minutes) will be administered the week after the unit has been completed. The first questionnaire asks students to report their gender, ethnicity, age, and past grade in PE. It and the subsequent questionnaires ask students to rate (on a scale from 1-5) statements based on their agreement or disagreement with each one. The fourth questionnaire asks an additional question where students can share their thoughts about the games unit they just participated in. Students' involvement in the study will total on average 35 minutes of responding to surveys, while the rest of the time allocated to participating in team games lessons, as they normally would in PE. Student who choose not to participate will be provided with an alternative curricular activity designed with and approved by the classroom teacher.

Participation in the research study will be completely voluntary. Should you consent for your child to participate, you and/or you child will have the choice to withdraw from the study at any time, for any reason, with no consequences. If you or your child wish to withdraw, simply inform one of the researchers, your child's teacher or principal that you wish to withdraw and your information will be removed upon your request. As well, you and your child have the right to not answer any question which is considered inappropriate. Any students who choose not to participate will work on an alternative activity, designed and approved by the classroom teacher, in the same room as their classmates and will still engage in all normal physical education classes as instructed by their teacher.

Any data collected *will remain completely confidential and the results will be confidential and anonymous*. In other words, students' names will not be associated with their responses on the questionnaires. Completed questionnaires will be stored in a secure location within a locked office, won't be viewed by your child's teacher, and *will NOT influence your child's grades*. Participating schools will receive a final written report with the anonymous results of the study. The overall (anonymous) results may also be shared with teachers in the local school district through professional development workshops, and the results may be published in various scholarly, professional journals or shared at professional conferences. Any presentation, report or publication resulting from this study will not contain any identifiable information regarding you, your child, the class, the school, or the school district.

There are no known or anticipated risks associated with participation in this study. The study has been reviewed and received clearance from the Research Ethics Board of Brock University (File # 14-253), the District School Board, the school's principal, and your child's physical education teacher. A copy of the questionnaires which students will be asked to complete will be available in the school principal's office should you desire to review them. If you have any questions or concerns about this study please contact either Ken Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca or Scott Robertson at (519) 503-1905 or sr09qx@brocku.ca or Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).

You written consent is required to allow your child to participate in completing the questionnaires. To indicate your consent, please complete the enclosed ***Consent Form*** and return it to your child's physical education teacher as soon as possible. As well, if you wish to receive a summary of the results please contact Mr. Scott Robertson. Thank you very much for helping to enhance the high school physical education experience through your involvement in this study.

Sincerely,   Ken Lodewyk, Brock University   Mr. Scott Robertson, Brock
                                            University

Appendix C

INFORMED CONSENT FORM
STUDY TITLE: *Investigating the Relationship between Teaching Games for Understanding and High School Physical Education Students' Enjoyment, Self-Efficacy, and Intentions to Enroll*

Principal Investigator: Dr. Ken Lodewyk   Principal Student
        Investigator: Mr. Scott Robertson

Invitation: Your child is invited to participate in study which involves research. The purpose of this study is to explore how a method of teaching physical education, called Teaching Games for Understanding, impacts high school students' enjoyment of physical education and their desire to participate in PE in the future.

What's Involved: Students who volunteer to participate will be asked to complete a short questionnaire (taking approximately 5-10 minutes) on four occasions during a team games unit during their ninth-grade physical education class. The first questionnaire asks students to report their gender, ethnicity, age, and past grade in PE. It and the subsequent questionnaires ask students to rate (on a scale from 1-5) statements based on their agreement or disagreement with each one. The fourth questionnaire asks an additional question where students can share their thoughts about the team games unit they just participated in. There are no "correct or incorrect" answers to any of the items. Students who choose not to participate will be provided an alternative curricular activity to work on; this activity has been designed with, and approved by the classroom teacher.

Potential Benefits and Risks: Potential benefits of participation include helping to inform secondary physical educators' future practice by broadening their methods of teaching, making PE more enjoyable. There are no known or anticipated risks associated with participation in this study. Completing the questionnaires will likely be an educational experience for the students. The questionnaire may asked students to disclose some information (e.g., beliefs in their abilities) which some may deem sensitive. Though feelings of discomfort are very unlikely, if they do occur, necessary and appropriate referral to a counsellor can and will be provided.

Confidentiality: All personal data and results will be kept *strictly confidential.* Only the researchers will have access to the data (which will be stored in a secure location within a locked office and shredded five years after the completion of the study) and your child's name will not be associated with specific results. Your child's physical education teacher will not have any access to completed questionnaires and responses on the questionnaires will *in no way influence their grade in physical education.*

Voluntary Participation: Your child's participation in this study is completely voluntary and you and/or your child will have the option of withdrawing from participation at any time, for any reason, with no consequences. There is no obligation for your child to answer any question that you or your child consider inappropriate. Before deciding to participate, or anytime during or after the study, parents and participants are also welcome to view a copy of the questionnaires, which will be available at the principal's office at the school or available to be sent to you by the researcher, upon request. There will be no payment for your child's participation.

Publication of Results: Participating schools will be able to request professional development workshops for their teachers based upon the methods and results of the study. The results may be published in professional and scholarly journals, or presented at various conferences. If you desire feedback about the use of the data collected contact Mr. Scott Robertson and this information will be shared during the fall season of 2016.

Contact Information and Ethics Clearance: This study has been reviewed and received clearance from the Research Ethics Board at Brock University (File #-14-253), the Participating School Board, and the school's principal. If you have any questions or concerns about this study please contact either Ken

Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca or Scott Robertson at (519) 503-1905 or sr09qx@brocku.ca or Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).

Please complete the bottom portion of this consent form and then detach it (keep the top portion for your information) and return the bottom portion to your child's physical education teacher as soon as possible. Thank you for considering participating in this study!

-----------------------✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁✁-----------------------

CONSENT FORM

Student's Name: _____   School: _____

❑   We have read and understood all relevant information pertaining to this study

❑   We understand that we or my child may ask questions in the future

❑   We understand that we or my child may withdraw from participation at any time

❑   We give permission for my child to participate in the Brock University study conducted by Dr. Lodewyk and Mr. Robertson.

❑   We do **NOT** give permission for my child to participate in the Brock University study conducted by Dr. Lodewyk and Mr. Robertson.

Signature of Parent/Guardian: _____   Date: _____

Signature of Student: _____   Date: _____

Signature of Researcher(s): _____   Date: _____

Appendix D

Pre-Unit Questionnaire

*Note – the survey the students will receive will only contain the General Information
(For Males) or General Information (For Females) not both of them.

General Information (For Males)

1. Your Date of Birth: Day _____   Month _____   Year _____

2. Your Ethnic Background (circle one):   Afro-Canadian or Black   Asian-Canadian

   Caucasian or White   Hispanic/Spanish Speaking   Other:
   _____

3. Do you have a disability that limits your performance in physical education? (circle one) YES
   or NO

   If so, what is
   it?_____

4. What is your religion (circle one):   Atheist (No Religion)   Buddhist   Hindu
       Muslim

   Sikh   Catholic Christian   Protestant Christian   Other:
   _____

5. What grade (%) do you usually receive in physical education?
       _____ %

6. Compared to others in this country, which most closely describes your family's financial standard of
       living?
   Very Poor   Poor   Average   Rich   Very Rich

7. Compared to others your age and gender, which of following most closely describes your level of
       fitness?
   Very Poor   Poor   Average   Good   Very Good

8. On average, how often do you actively exercise at least 30 minutes per day (circle one):
       Never   1-2 days   3-4 days   5-6 days
        Every   per week   per week
        per week   day

9. Use the following picture below to answer the following three questions. The number of which
       person below:
               A. Most resembles how you would like other people to see your body _____
               B. Most resembles how you see your body _____

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

11. In grade 10, 11, and 12 you will have the choice whether you want to take physical education. How much would you want to take it?

Not at All				Very Much
1	2	3	4	5

General Information (For Females)

1. Your Date of Birth: Day _____   Month _____   Year _____

2. Your Ethnic Background (circle one):   Afro-Canadian or Black   Asian-Canadian

    Caucasian or White   Hispanic/Spanish Speaking   Other:

    _____

3. Do you have a disability that limits your performance in physical education? (circle one) YES   or NO

    If so, what is it?_____

4. What is your religion (circle one):   Atheist (No Religion)   Buddhist   Hindu

       Muslim

    Sikh   Catholic Christian   Protestant Christian   Other:

    _____

5. What grade (%) do you usually receive in physical education?
        _____ %

6. Compared to others in this country, which most closely describes your family's financial standard of living?

Very Poor	Poor	Average	Rich	Very Rich

7. Compared to others your age and gender, which of following most closely describes your level of fitness?

Very Poor   Poor   Average   Good   Very Good

8. On average, how often do you actively exercise at least 30 minutes per day (circle one):

Never	1-2 days	3-4 days	5-6 days
Every		per week	per week
per week	day		

9. Use the following picture below to answer the following three questions. The number of which person below:

       A. Most resembles how you <u>would like other people</u> to see your body _____

       B. Most resembles how <u>you</u> see your body _____
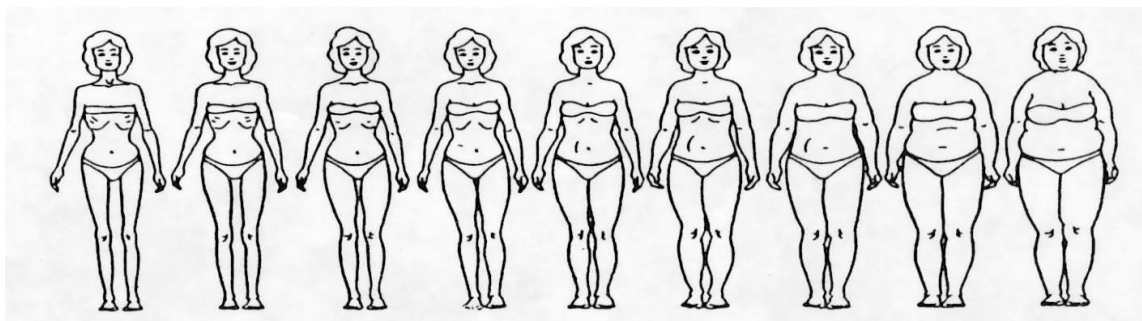

1   2   3   4   5   6   7   8   9

11. In grade 10, 11, and 12 you will have the choice whether you want to take physical education. How much would you want to take it?

| Not at All | | | | Very Much |
| 1 | 2 | 3 | 4 | 5 |

Survey on Your Feelings in Physical Education (PRE)

Remember, there are **no right or wrong answers**, so please circle the number (e.g. 1-5) for each question which best indicates your opinion. Do not spend too much time on any one statement but give the answer which seems to best describe your present feeling.

	Disagree a lot		Somewhat Agree		Agree a lot
	1	2	3	4	5

In physical education class …

1. I feel bored.	1	2	3	4	5
2. I feel that my PE teachers provide me choices and options in how to work on my fitness.	1	2	3	4	5
3. In PE I prefer trying to solve complex rather than simple problems.	1	2	3	4	5
4. I'm sure I can learn the most difficult material from the activities in PE.	1	2	3	4	5
5. I think I will be able to use what I learn from PE in my other courses.	1	2	3	4	5
6. I dislike it.	1	2	3	4	5
7. I feel that my PE teachers understand my feelings.	1	2	3	4	5
8. I like to have the responsibility of handling situations in PE that require a lot of thinking.	1	2	3	4	5
9. I believe I will receive an excellent grade in PE.	1	2	3	4	5
10. It is important for me to learn the skills and concepts information in PE.	1	2	3	4	5
11. I'm confident I can learn the basic skills and concepts taught in PE.	1	2	3	4	5
12. It frustrates me.	1	2	3	4	5
13. PE teachers encourage me to ask questions about fitness.	1	2	3	4	5
14. When I am in PE, I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5
15. I am very interested in the material we learn in PE.	1	2	3	4	5
16. I feel as though I would rather be doing something else.	1	2	3	4	5

17. PE teachers try to understand how I want to work on my fitness before suggesting ways for me to do so.	1	2	3	4	5
18. In PE I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something.	1	2	3	4	5
19. I'm confident I can do an excellent job on the assignments and tests in PE.	1	2	3	4	5
20. I think the material in PE is good for me to learn.	1	2	3	4	5
21. I expect to do well in PE.	1	2	3	4	5
22. It's no fun at all.	1	2	3	4	5
23. PE teachers give me confidence to improve my fitness.	1	2	3	4	5
24. I really enjoy tasks in PE that involve coming up with new solutions to problems.	1	2	3	4	5
25. I'm confident I can learn the basic skills and concepts taught in PE.	1	2	3	4	5
26. When participating in sports and games, it's enough for me that success and/or fun is achieved; I don't care how or why it works.	1	2	3	4	5
27. I like what I have to learn in PE.	1	2	3	4	5
28. It makes me depressed.	1	2	3	4	5
29. PE teachers listen to how I would like to work on my fitness level.	1	2	3	4	5
30. I prefer tasks in PE that make me think more than those that do not.	1	2	3	4	5
31. I'm confident I can perform the most difficult material taught by the PE teacher.	1	2	3	4	5
32. I like what I have to learn in PE.	1	2	3	4	5
33. I'm certain I can learn the skills being taught to me in PE.	1	2	3	4	5
34. I feel relief rather than satisfaction after completing a task in PE that required a lot of problem-solving.	1	2	3	4	5
35. It's not interesting at all.	1	2	3	4	5

36. Knowing the teacher, my ability, and the difficulty of PE, I think I will do well in PE.	1	2	3	4	5
37. Understanding the material in PE is very important to me.	1	2	3	4	5

Appendix E

Mid-Unit Questionnaire

Survey on Your Feelings in Physical Education (MID)

Remember, there are **no right or wrong answers**, so please circle the number (e.g. 1-5) for each question which best indicates your opinion. Do not spend too much time on any one statement but give the answer which seems to best describe your present feeling.

	Disagree a lot		Somewhat Agree		Agree a lot
	1	2	3	4	5

Currently, in this unit of my physical education class …

	1	2	3	4	5
1. I feel bored.	1	2	3	4	5
2. I feel that my PE teachers provide me choices and options in how to work on my fitness in PE.	1	2	3	4	5
3. I'm sure I can learn the most difficult material from the activities in PE.	1	2	3	4	5
4. I dislike it.	1	2	3	4	5
5. I feel that my PE teachers understand my feelings about fitness.	1	2	3	4	5
6. I believe I will receive an excellent grade in PE.	1	2	3	4	5
7. It frustrates me.	1	2	3	4	5
8. PE teachers encourage me to ask questions about fitness.	1	2	3	4	5
9. I'm confident I can learn the basic skills and concepts taught in PE.	1	2	3	4	5
10. I feel as though I would rather be doing something else.	1	2	3	4	5
11. PE teachers try to understand how I want to work on my fitness before suggesting ways for me to do so.	1	2	3	4	5
12. I except to do well in PE.	1	2	3	4	5
13. It's no fun at all.	1	2	3	4	5
14. PE teachers give me confidence to improve my fitness.	1	2	3	4	5
15. I expect to do well in PE.	1	2	3	4	5
16. It makes me depressed.	1	2	3	4	5
17. PE teachers listen to how I would like to work on my fitness level.	1	2	3	4	5
18. I'm confident I can perform the most difficult material taught by the PE teacher.	1	2	3	4	5

19. It's not at all interesting.	1	2	3	4	5
20. I'm certain I can learn the skills being taught to me in PE.	1	2	3	4	5
21. Knowing the teacher, my ability, and the difficulty of PE, I think I will do well in PE.	1	2	3	4	5

Appendix F

Post-Unit Questionnaire

Survey on Your Feelings in Physical Education (PT)
In the space provided, please explain the main reasons why you liked or did not like this past _____ unit in PE. Remember there are **no right or wrong answers.**

Remember, there are **no right or wrong answers**, so please circle the number (e.g. 1-5) for each question which best indicates your opinion. Do not spend too much time on any one statement but give the answer which seems to best describe your present feeling.

Thinking about this _past_ PE unit…	Disagree a lot 1	2	Somewhat Agree 3	4	Agree a lot 5
1. I feel bored.	1	2	3	4	5
2. I feel that my PE teachers provide me choices and options in how to work on my fitness.	1	2	3	4	5
3. In PE I prefer trying to solve complex rather than simple problems.	1	2	3	4	5
4. I'm sure I can learn the most difficult material from the activities in PE.	1	2	3	4	5
5. I think I will be able to use what I learn from PE in my other courses.	1	2	3	4	5
6. I dislike it.	1	2	3	4	5
7. I feel that my PE teachers understand my feelings.	1	2	3	4	5
8. I like to have the responsibility of handling situations in PE that require a lot of thinking.	1	2	3	4	5
9. I believe I will receive an excellent grade in PE.	1	2	3	4	5
10. It is important for me to learn the skills and concepts information in PE.	1	2	3	4	5
11. I'm confident I can learn the basic skills and concepts taught in PE.	1	2	3	4	5
12. It frustrates me.	1	2	3	4	5

13. PE teachers encourage me to ask questions about fitness.	1	2	3	4	5
14. When I am in PE, I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5
15. I am very interested in the material we learn in PE.	1	2	3	4	5
16. I feel as though I would rather be doing something else.	1	2	3	4	5
17. PE teachers try to understand how I want to work on my fitness before suggesting ways for me to do so.	1	2	3	4	5
18. In PE I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something.	1	2	3	4	5
19. I'm confident I can do an excellent job on the assignments and tests in PE.	1	2	3	4	5
20. I think the material in PE is good for me to learn.	1	2	3	4	5
21. I expect to do well in PE.	1	2	3	4	5
22. It's no fun at all.	1	2	3	4	5
23. PE teachers give me confidence to improve my fitness.	1	2	3	4	5
24. I really enjoy tasks in PE that involve coming up with new solutions to problems.	1	2	3	4	5
25. I'm confident I can learn the basic skills and concepts taught in PE.	1	2	3	4	5
26. When participating in sports and games, it's enough for me that success and/or fun is achieved; I don't care how or why it works.	1	2	3	4	5
27. I like what I have to learn in PE.	1	2	3	4	5
28. It makes me depressed.	1	2	3	4	5
29. PE teachers listen to how I would like to work on my fitness level.	1	2	3	4	5
30. I prefer tasks in PE that make me think more than those that do not.	1	2	3	4	5
31. I'm confident I can perform the most difficult material taught by the PE teacher.	1	2	3	4	5
32. I like what I have to learn in PE.	1	2	3	4	5
33. I'm certain I can learn the skills being taught to me in PE.	1	2	3	4	5
34. I feel relief rather than satisfaction after completing a task in PE that required a lot of problem-solving.	1	2	3	4	5
35. It's not interesting at all.	1	2	3	4	5

36. Knowing the teacher, my ability, and the difficulty of PE, I think I will do well in PE.	1	2	3	4	5
37. Understanding the material in PE is very important to me.	1	2	3	4	5

	Not at All				Very Much
38. In grade 10, 11, and 12 you will have a choice whether you want to take physical education. How much would you want to take it?	1	2	3	4	5

Appendix G

Script of the Presentation of Questionnaires

- Ensure that you have enough questionnaires and pencils for students to use
- Collect the consent forms from the supervising teacher and any incoming consent forms from the students

To the Class:
- Thank you everyone for being willing participate in this study
- I'm here today to ask you to complete a survey about your enjoyment and your thoughts in physical education class.
- Completing the survey is voluntary and your participation will in no way influence your grade in PE, at all!
- In order to complete the survey, just circle a number from 1-5 that you think best corresponds to how much you agree or disagree with each statement.
- The survey is completely confidential, which means that no one will see your responses. When you information gets entered into the computer your name will be replaced with a code number so we won't know who has responded.
- If at any point you don't want to answer a question, simply skip it. Or if you wish to stop at any point you can. Again, participation is voluntary, so there will be no consequences if you choose to withdraw.
- Please complete the survey seriously, and on your own, or else the information we get won't be very reliable.
- When you are finished, raise your hand and I will come and collect your questionnaire. But please remain quiet when you finish
- If you need a pencil, I have extras.
- Thank you for your involvement in this study.

Appendix H

Semi-Structured Interviews

These questions served as a starting point and guidelines for the conversations with the teachers. Other questions were asked to clarify any responses or follow up with a teacher's response. As such each interview was slightly different based on the individual teacher.

Teaching Experience:

1. How long have you been teaching?

2. How long have you been teaching physical education?

3. How many of those years have been spent teaching grade 9 PE?

Teaching Style:

4. Can you describe your style of teaching? How might a typical class taught by you look?

Familiarity with TGfU:

5. What is your familiarity with TGfU or other non-direct methods of teaching PE?

Class Demographics:

6. Can you describe your class as a whole group to me?

Appendix I

Unit Overview

	Game	Game Appreciation	Tactical Awareness	Making Appropriate Decisions	Skill Execution	Performance
Lesson 1-Team Handball	Skittles	Group Discussion	Team Discussion	Uneven 7-Up	Catch and Shoot	4 Corner Handball
Lesson 2-Team Handball	Monkey in the Middle	Think-Pair-Share	Monkey in the Middle 2.0	Round the Outside	Hoop Pass	Team Handball
Lesson 3-Team Handball	Continuous Outlet	Group Discussion	Rap It Up	Outlet	Outlet Pass and Trail	Team Handball
Lesson 4-Team Handball	Speedball	Brainstorm	4 Goal Handball	5-3-2 Goal	Stuck Defence	Team Handball
Lesson 5-Rugby	Ultimate Rugby	True/False	3 on 2 Rugby	4 on 2 Rugby	Egg Toss and Move & Pass	Modified Touch Rugby
Lesson 6-Ultimate Disc	7-Up	Group Discussion	7-Up Observation	Challenge	Modified Kan Jam	Ultimate Frisbee
Lesson 7-Ultimate Frisbee	Hoopster	Discussion	Frisbee Basketball	Where to Throw?	Egg Toss	Ultimate Frisbee

Lesson 8- *Ultimate Frisbee*	End Ball	Rule Quiz-4 Positions	Team Tactics Development	Small Sided Flag Game	Race to the Cone	Ultimate Frisbee
Lesson 9- *Ultimate Frisbee*	Sideline 3 Person Pass	Find Your Match	Think-Pair-Share	Sides Before End	Gate Catch	Ultimate Frisbee
Lesson 10- *Flag/Touch* *Football*	Rock Paper Scissors Football	Group Discussion	RPS Flag Football	3 vs. 3 Flag Snatch 7-Up	Flag Snatch	Continuous Flag Football

Appendix J

Unit Plan – Lessons

Lesson 1   **Game:** *Team Handball*   **Tactic:** *Creating Space*

*Game-*Skittles
-Split class into 4 teams
-Each team creates a square with 4 cones in their corner of the gym with 3 pylons placed in the middle of the square
-4 Gator balls are in play
-Objective is to knock other team's pylons down using a gator ball
-No steps can be taken while holding a ball
-When a pylon is knocked down, the defence gets possession of the ball
-When all 3 pylons are knocked down, the entire team must return and perform under-over with the ball before setting up the pylons and returning to play
    Potential Modifications:
    -Dropped pass is a turnover
    -Allowed 2 Steps with ball

*Game Appreciation-*Group Discussion
-What was fun about that game?
-Were there any similarities to other games? If so, what?
-What was important to do to be successful in the game?

*Tactical Awareness-*Team Discussion
-As a team, come up with as many ways to create space during a game as you can (e.g. form triangles, support ball)
-Have teams share some of their ideas with the rest of the class

*Making Appropriate Decisions-*Uneven 7-Up
-Within original team, split into two smaller teams, with one team slightly larger than the
    other
-In a small space, the larger team attempts to complete 7 consecutive passes while the smaller team defends them
-May hold ball for up to 3 seconds before needing to pass
-When 7 passes are made, shuffle teams and repeat
-*Ask*: How important is creating space to be successful in this game?
        -How are you creating space?

*Skill Execution-*Catch and Shoot
-Have students find a partner, get one ball and go to one of the nets
-Set up in two lines have pairs practice creating space, catch a pass and take a shot at the
    net
-Place a pylon in each of the corners of the net
-If ball goes in the net, counts as 1; knocking down the pylon counts as 2 points

-Alternate roles; passer and shooter
-See who can score 15 points in fewest number of attempts
Performance-4 Corner Team Handball
-Original 4 teams play one another
-Net is placed on its side, no goalie in the net, inside a 4m crease in teams corner
-3 Steps may be taken while in possession of the ball
-If goal is scored, defence receives possession
-10 pinnies are placed on top of net, if goal is scored, goal scorer takes pinny back to their
      net
-No contact between players

Lesson 2   **Game:** *Team Handball*   **Tactic:** *Maintaining Possession*

*Game-*Monkey in the Middle
-In groups of 3; with one ball per group (gator skin works best)
-Groups play in a 7x7 meter space which is only for their group
-Two offence vs. one defence
-Offensive players are trying to pass the ball without the defender touching the ball
-The defender must be at least one arm's length away from the offensive players
-If defender touches ball, they switch with one of the offensive players
-After 30 seconds rotate positions if defender does not get the ball

    -Add rule: passes must not be lobbed (high arcing) above defender
    -Add challenge: offense should not allow the defender to touch the ball in 30
    seconds

*Game Appreciation-*Think/Pair/Share
-Have students think about the following questions & discuss their answers with someone
    nearby
-Choose one or two pairs to share their answer (ask one question before allowing
    discussion and moving to other)
Questions:
-What was the objective of the game?
    A: to keep the ball from the defence
-What is the easiest way to achieve the objective of the game?
    Potential Answer: One person holds the ball and stands still since the rules don't allow
        the defender to take the ball from the offence
-How did passes change between the first time we played and the second?

*Tactical Awareness-*Monkey in the Middle 2.0
-Same set up as Monkey in the Middle
-Offensive players try to complete as many passes as they can in 30 seconds
-Each completed pass counts as one point
-If the defender intercepts the ball, one point is deducted from the offensive players score,
    but ball is immediately returned to offensive players
-Rotate so each player is on offence twice
Discuss with class.
-What was important to maintain possession in the game?
-How did you get open?
-How is this similar to other sports?

*Making Appropriate Decisions-*Round the Outside
-Combine two groups to make a group of 6
-Playing zone is 10x10meters
-Four players stand around the outside of the zone, they are offence
-Two players stand inside the zone, one is offence one is defence
-Score a point when outside players complete a pass to the offensive player in the middle

-Outside players may pass the ball to another person on the outside; this does not count as
    a point
-Try to score as many points as you can in 30 seconds then rotate positions

Skill Execution-Hoop Pass
-This activity is used to develop leading passes, pass fakes and cuts
-Groups of 4
-One person starts with a ball and remains stationary
-When the defender says go, the offence tries to get open and complete a pass within 5
    seconds
-Play 5 times trying to receive 5/5 passes
-4th person observes play and provides feedback to offensive players paying attention to:
    1) Does thrower use pass fakes?
    2) Does offence start by moving opposite direction before attempting getting open?
    3) Does offence use change of pace to get open?
-After 5 times, rotate positions between all 4 players
Modification: must complete the pass to offensive player standing inside a hula hoop

Performance-Team Handball
-Split into even teams; two teams face off against each other
-Place a net on either end of the space with a 4m crease; only goalie is allowed in the
    crease
-While in possession of the ball, no steps may be taken
-Play continues on dropped pass
-Can't take ball from offensive player's hands
-Teams may place a goalie in net, but goalies must be rotated every 5 minutes
-All shots must bounce before going into the net
-If ball goes out of bounds behind net, always goalie's ball

Lesson 3   Game: *Team Handball*   **Tactic:** *Transitions (Offence and Defence)*

Game-Continuous Outlet
-Three teams of four players are set up on one court with two nets on either end
-One team begins in the middle of the court
-The other two teams begin at both ends of the court, with 2 defenders and 1 goalie on
        (fourth player stands on the sideline around 3 point line of basketball court)
-Team in the middle has a ball and starts as offence
-Offence must move the ball to try to score a goal on one of the ends
      -Players may take up to 3 steps but can only hold the ball for up to 5 seconds
      -Must shoot from outside the basketball key
-Defence recovers the ball regardless if offence does/doesn't scores and becomes offence
        going towards the other net
-Player on the sideline can now step in and become offence for their team to help attack
-After playing offence, the team would have one player step off to the side, with 1 player
        becoming goalie and two, defence
**Ensure the goalie changes every time and person standing on sideline changes every
time

Game Appreciation-Group Discussion
-What were the key rules in that game?
-How did those rules effect what you did?
-Would you apply this principle in other games? Where? How?

Tactical Awareness-Rap it Up
-Each team needs to come up with a 2 line rhyme/rap for a tactic which is useful in
        transitions during game play, both offensively and defensively
-E.g. For your team to look sick, you better pass the ball up quick
-May have to draw attention to what players should do with/without the ball, the
        advantage of getting up the court quickly, transitioning back onto defence, etc…
-Each team then presents their rap and demonstrates the tactic to the class

Making Appropriate Decisions-Outlet
-Two teams of 6 face off against one another
-Two Hula Hoops with a pylon inside each are set up at each end of the court, 3 steps
        from the sideline (total of 4 set up)
-Four players are on the court for each team, while the other two players are standing
        with one foot touching a pylon at the sideline around half court (similar to beginning
        game)
-Teams attempt to knock the opponent's pylons down
-Can take only one step with the ball; pivot is allowable
-Players cannot step inside the hula hoop or touch the pylon
-Defence must be 1m away from the offensive player with the ball
-Cannot take the ball from someone's hands
-If goal is scored or defence steals the ball, play resumes in the other direction

-Ball must be passed to one of the outlet people (standing with foot on pylon) before attempting to score
-This person may now pass the ball back in, and takes the place of the person who passed them the ball
-After 5 minutes, stop the game and have teams quickly meet and discuss strategies
Finish game and ask students these questions
-Why is it beneficial to outlet the ball quickly up the court?
-Who is best person to outlet to?
-Where should you go after you outlet the ball?

Skill Execution-Outlet Pass and Trail (3 person weave)
-Students in groups of 3 start at one end of the court
-One player (with ball) begins under the basketball net, other two players are free throw line extend on either side of the person with the ball
-Person with the ball passes to one of the other players
-Player who doesn't receive pass begins to head up court and receives a pass
-Initial player with the ball, and the last passer run up the court to support the player with the ball
-Player with the ball may now shoot or pass to someone in a better scoring position
-Return to the line and repeat
-Extension:
  -Have an additional player standing on the far side of the court who plays defence
  -Players have 5 seconds to get up the court and try to score

Performance-Handball
Play two games of handball
-Allow 3 steps with the ball

Lesson 4   **Game:** *Team Handball*   **Tactic:** *Defending Space*

*Game-*Speedball
-Play two games simultaneously (4 teams)
-Set net on its side creating smaller scoring space
-No goalies
-Game begins with a jump ball
-If ball ever lands on the ground, it gets played with feet (kicking)
-If someone kicks the ball into the air and the ball is caught before it bounces the ball may now be thrown
-No steps allowed while holding ball in your hands
-In order to score the ball must be thrown/kicked into the net from within the basketball 3-point line

*Game Appreciation-*Brainstorm
-In their teams (4 groups), students need pen/pencil and paper
-Students should list the key factors of person to person defence and key factors of zone defence (e.g. Player vs. Player-mark one person, stay close to them. Zone-responsible for an area)
-Have each group share their list with the class

*Tactical Awareness-*4 Goal Handball
-Playing handball where teams can score on any of the opposing teams' nets
-Use 3 balls to begin with
-No goalies; keep nets flipped on their sides
-Maximum of three steps with the ball
-Dropped balls may be picked up by either team
-Stop the game and ask the questions
   -How did your team defend your goal?
   -Why might playing a person to person defence be difficult in this situation?

*Making Appropriate Decisions-*5-3-2 Goal
-In groups of 6
-Court is split into 3 zones
-Only one defender may stand in the first zone
-Offence must complete at least 5 passes in this zone before moving into the next zone
-A second defender is added in next zone
-Offence must complete at least 3 passes in this zone
-Third defender is added in 3rd zone
-Offence must complete 2 passes before trying to score a goal on the net
-Defence must choose how to stop the offence
Discuss with students:
-What influenced your choice on how you defended the other team?

*Skill Execution-*Stuck Defence
-3 players on offence and 3 on defence
-Offence is trying to score on the net (still on its side) using handball rules
-Each defensive player has a pylon which they may choose to place anywhere outside of the crease
-Defence must stay within 1 step of their pylon at all times
-Offensive team takes 3 turns then switches with defence
-Allow players to be offence and defence twice each

Performance-Team Handball (15 min)
-Play two games of handball with nets set up normally and a goalie

Lesson 5   **Game:** *Rugby*   **Tactic:** *Ball Movement/Defending Space*

Game-Ultimate Rugby
-Teams of approx. 5 face one another
-Ball may be thrown in any direction
-Dropped ball is a turnover
-Stationary when you catch the ball for 5 seconds, after 5 seconds you may run with ball
-Score point by catching a pass in the opponent's end zone
Optional Extensions:
      -Only pass the ball underhand
      -If tagged while running with the ball it is a turnover

Game Appreciation-True/False
-Ask the class the following questions
-If students think answer is true-give thumbs up; false-thumbs down.
-For all false answers, have students correct the statement
1) With the ball, I was allowed to run whenever I wanted.
Answer: False-had to wait for 5 seconds first
2) Ball could be thrown in any direction
A: True
3) In the game of rugby, the ball can be thrown in any direction
A: False-lateral/backward only, not forwards
4) Could score by running into the end zone with the ball
A: False-had to catch a pass in end zone
5) It was important to spread out to force defence to spread out
A: True
6) Throwing backwards was a bad idea
A: False-often times behind the ball is a good outlet/support spot

Tactical Awareness-3 on 2 Rugby
-Split into groups of 6, with one ball
-Set up 4 cones (per group) in a 15x15m square
-3 people are defence, 3 are offence
-1 defender is off to the side each time
-Offence has one ball and must try to get ball past opponents' line without being tagged
-Ball may be passed, but only underhand and laterally/backwards
-Offence goes 6 times, with new defence each time
-After 6th attempt, offence and defence switch roles

Bring class together to discuss the following:
What did you do to score? What did your team find most effective?
What did you do to try and stop the offence? Was it successful?

Making Appropriate Decisions-4 on 2 Rugby
-Similar to previous game; however, 4 players are now trying to score on 2
-Maximum of 2 passes may be made
-After 2 turns on defence become an offensive player
If offense is scoring very easily:
-Add scoring 'gates', where the person with the ball must run through in order to score

*Skill Execution-*Rugby Pass
First teach the rugby pass:
-Hold the ball with two hands, between ½ and 1/3 of the way up the ball
-When throwing one hand will guide the ball, the other will give it the power (similar to shooting a basketball)
-Start with ball on hip opposite to direction you are throwing
-Rotate guide hand towards the body and push the ball towards target
-Rotate wrists as you release the ball to give the ball some spin
-Follow through pointing at target with hands and shoulders

Begin with activity one, then progress to activity two
Activity 1-Egg Toss
-With a partner, stand sideways (shoulder to partner)
-Both partners pass the ball to one another
-If both successful take a step away from each other
-Continue this, moving further and further away until one of the players is unable to complete the pass or catch the pass
-Restart if this occurs, trying to beat previous record

Activity 2-Move and Pass
-Each group of three needs a ball
-All groups will be within the same space
-Begin by walking around the playing area, passing the ball to your partners every couple of steps
-Be mindful of other groups in the space
-Increase speed as the students get used to throwing the ball

*Performance-*Modified Touch Rugby
-Two teams play one another
-Passes underhand only but in any direction
-If tagged stop and make a pass
-Team is allowed to be tagged 5 times, then ball is turned over

Lesson 6   **Game:** *Ultimate Disc*   **Tactic:** *Finding Space*

*Game-*7 Up
-Two small teams face off
-Boundaries are a small space (e.g. 8m by 8m square)
-1 object (e.g. rubber chicken, ball) is given to 1 of the teams
-You may hold the object for up to 3 seconds, but cannot take any steps
-To score a point, 7 consecutive passes must be made
-If a point is scored, ball goes to the other team
-If a turnover is committed (i.e. object thrown out of bounds or other team intercepts)
        then defence receives object and play continues
-EXTENSION (Add after a couple minutes of playing):
        -Dropped pass is a turnover
-After a few minutes, introduce a Frisbee to the game instead of the object

*Game Appreciation-*Group Discussion
-What were some of the key rules in the game?
-How is that game similar to playing Team Handball?
-What tactics were similar?

*Tactical Awareness-*7Up Observation
-Have class come together
-Have 2 teams volunteer to play 7-Up while class watches
-Observers are assigned to a team, and they watch them to see how the team finds space
-Provide pieces of papers to observers to record how the players chose to find space
-Discuss observations
**Be sure to stress feedback as being positive and constructive without using names

Making Appropriate Decisions-"Challenge"
-A new group of 4, needs 1 Frisbee and 2 pylons
-2 Players stand 10 feet apart, each with one foot touching one of the pylons. These
        players are on offence
-2 other players, one offence and one defence stand at least 3 feet from the initial two
        players
-Offensive player not confined to a pylon must try to get open and receive a pass from the
        other offensive players, while defensive player tries to prevent completions
-For every completion to the moving offensive player, score 1 point
-Passes may be made between two stationary offensive players, but these do not count for
        points
-Stationary offensive players should provide feedback/encouragement during/after each
        round
-Play for 30 seconds, then rotate roles

*Skill Execution-*Modified Kan Jam
-Begin by teaching the correct form of the backhand and flick Frisbee passes:
Backhand Pass:

-With 4 fingers underneath the Frisbee, and thumb on top/side
-Reach throwing hand with Frisbee to opposite hip as your turn your throwing shoulder
  towards target.
-Turn your body, lead with your elbow and flick your wrist releasing the Frisbee in the
  direction you wish to throw

Flick/Forearm Pass:
-Hold the Frisbee with two fingers underneath the Frisbee along the rim
-Place the thumb on the top of the Frisbee
-With arm extended outside the body, flick the wrist like you are turning a doorknob.
  Ensure Frisbee is flat when you perform this skill

-In pairs get two pylons and one Frisbee
-Practice throwing the Frisbee back and forth
-When ready set one pylon in front of each person
-Score one point if you can hit the pylon in front of your partner directly
-Score two points if partner can redirect Frisbee to hit the pylon
-As a pair, attempt to score 21 points in as few throws as possible

Performance-Ultimate Frisbee
-Split the class into teams (two teams face one another)
-Objective is to catch the Frisbee in opponent's end zone
-Dropped Frisbee is a turnover
-No steps while holding the Frisbee
Follow up discussion:
-Did you find it easier to create space for yourself?
-Did this make you more successful?
-How does this relate to other sports/games?

Lesson 7   **Game:** *Ultimate Frisbee*   **Tactic:** *Throwing Choices*

*Game-*Hoopster
-Split class into 4 teams (2 games)
-Hula Hoops are placed in each endzone (at both ends of playing area)
-Each team chooses one person to be in the endzone
-To score this person must catch the Frisbee in the endzone
-Bonus point awarded if they catch it with at least one foot in the hula hoop
-If point scored possession changes to other team and catcher must change
-Players can hold disc for up to 5 seconds before they must pass it (more than 5 seconds counts as turnover)
-No steps can be taken, pivoting is allowed
-Interceptions and dropped discs result in possession change
-After 5 minutes stop the games and allow teams to choose where they want to place their hula hoop; then continue playing

*Game Appreciation-*Discussion
-What were some important rules?
-Where did you choose to place the hoop? Why?
-Was the game fun? Why/Why not?
-Was it similar to any other games?
-What skills or tactics did you use? How can these be applied to other games?

*Tactical Awareness-*Frisbee Basketball
-Hang hula hoop from the rim of the 4, side basketball nets
-Teams each start under their own hoop
-No steps with the Frisbee, 5 seconds while holding it before a throw must be made
-To score the disc must be thrown through one of the 3 opposing teams hoops
-If point is scored, possession goes to the team that began at that hoop
-Use 2 discs to begin, add more as seen fit

*Making Appropriate Decisions-*Where to Throw
-Students find partner and one Frisbee per pair
-Offensive player stands 15 feet from wall, facing the wall
-Defensive player starts at the wall and runs out to offensive player
-When defence reaches offence they assume a defensive stance with either hands up high or down low
-Offensive player must choose to throw over or under the arms of the defence
-If throw is in correct location and hits the wall, score 1 point
-After 5 attempts switch roles and repeat for 5 attempts

*Skill Execution-*Egg Toss
-Brief review of the two throws (backhand/flick)
-Have pairs stand facing one another 8 feet apart, one partner holding Frisbee
-Partners must throw the Frisbee so that both successfully catch it
-If successfully caught by both partners, both take one step back and continue

-If a drop occurs start back from the beginning
**Ensure adequate space between pairs
-After a few minutes, pause and discuss how people are catching the Frisbee
Use refinements/cues such as Frisbee Up High, catch like a 'crab' (hand up and open, pinch Frisbee)
Frisbee in middle, like an "alligator" (both hands clap onto the Frisbee)
-Replay the game, see which pair can get the farthest

Performance-Ultimate Frisbee
Split into two or three games for more participation

Lesson 8   **Game:** *Ultimate Frisbee*   **Tactic:** *Defending the Object*

Game-End Ball
-Set up a 30x15 meter grid for each team
-Two teams of approx. 5 face one another
-One player from each team stands just outside the 15m long end line on the opposite end
-To score this player needs to catch the ball in outside the playing area.
-No one else is allowed in this zone
-Ball must be passed between players until they can score a point
-Defenders must be 1 arm's length away from the ball carrier
-Can't move with the ball
-Every score, a new person must replace the person in the endzone

Game Appreciation-Rule Quiz 4 Positions
-Ask teams from the last activity the following multiple choice questions
-Each team comes up with an answer together
-Teams show their answer by performing following actions
-A: Stand up with Both Hands Reaching Straight Out
-B: Balance on One Foot
-C: Hold Squat
-D: Hold Plank
Questions:
1) How many steps can a player take while holding the ball in handball?
    A) None
    B) 1
    C) 3--Answer
    D) 5
2) How does team handball game begin?
    A) Coin Toss
    B) Jump Ball-Answer
    C) Rock Paper Scissors
    D) Team with better record gets ball
3) If defense hits the ball out the baseline on a shot who gets the ball?
    A) Goalie-Answer
    B) Defender who knocked it out
    C) Offence
    D) Offence who last touched ball
4) When can you pass to the goalie?
    A) Anytime
    B) When they call for the ball
    C) Never
    D) When they are out of the crease-Answer
5) Who is allowed in the crease?
    A) Everyone
    B) Only the goalie-Answer
    C) Defensive Team

        D)   Penalty Shooter

Tactical Awareness-Team Tactic Development
Each team develops two tactics which they can demonstrate to the class
1)   Tactic to make it difficult to pass the ball
2)   Tactic to make it difficult for your opponent to receive another pass
Have each group share one of their tactics

Making Appropriate Decisions-Small Sided Flag Game
-Each student needs a flag belt (or can use a pinny tucked into side of shorts)
-Students pair up and find their own space
-Objective is to take opponent's flag before they take yours
-Cannot use hand to block opponent/flag
-Cannot hold opponent
-If successful in taking flag, return it and play again

-Have pairs make a group of 4, and replay the game 1v1v1v1 with same rules
Discuss the following questions with class:
-When was a good time to go for the steal?
-How did you evade your opponents?

Skill Execution-Race to the Cone
-Each pair needs four cones
-Set up two cones 8 feet apart
-Another two cones are set up 6 feet apart
-Pairs of cones should be separated at least 1 foot from one another
-Player in front of 8ft cone is offence, other player is defence
-Both players start in the middle of their cones
-Offence starts the game, and can move either direction
-Objective is for offence to touch the 8ft cone before defence can touch 6ft cone
-Offence can fake in either direction as many times as they wish, but can only reach to touch a cone once
-Switch offence and defence and repeat

Performance-Ultimate Frisbee
-Split into 2 or 3 games of Ultimate to maximize participation

Lesson 9　　　　　**Game:** *Ultimate Frisbee*　　　　**Tactic:** *Playing with Width*

*Game-*Sideline 3 Person Pass
-Split class into groups of 4
-Three groups will play on the same playing field (20x25m)
-Each group has their own Frisbee
-To score a point, the Frisbee must be passed to someone standing on any sideline and
　　returned back to someone in play
-Players may take 3 steps with the Frisbee
-Objective is to score as many points as possible in 30 seconds
-Play two times to see if groups can beat their record
Modifications:
-Only 1 Frisbee per game, all 3 groups try to score as many points for their team as they
　　can
-Defence can intercept passes but cannot take the Frisbee from an opponent's hands
-If a team scores 2 points in a row, the Frisbee is turned over to another team

*Game Appreciation-*Find your Match
-Have students get into partners
-Each pair should be given a slip of paper which has either a rule, skill, tactic or a
　　question about one of those 3 things
-Goal is to find the match (i.e. question to answer)
-When all students have found their match, have each small group share the question &
　　answer
*Questions are normal text, answer is italicized
What you have to do to score in Ultimate
　　Catch the disc in endzone
After scoring, the team that was scored on walks to the opposite endzone and receives
　　this.
　　Long Throw/Huck
A player has this long before having to make a throw
　　5 Stalls
What you are allowed to do while holding the disc without walking?
　　Pivot
How to prevent disc from being scored
　　Person to Person Defence

*Tactical Awareness-*Think/Pair/Share
Have students pair up to answer the following questions
Then have volunteering students share their answer with the class
　　1) Why is playing to the sides useful?
　　2) When might it be beneficial? Think of an example

*Making Appropriate Decisions-*Sides Before End
-Split students into 4 teams
-2 teams will face off against one another on same field as before

-Before attempting to score students must first complete the 3-person pass to a teammate
    on one of the sidelines
-After the 3-person pass, the Frisbee may be passed into the end zone where another of
    the teammates must catch it
-Dropped pass counts as turnover
-Cannot take the Frisbee from an opponent's hands
Did playing to the sides help in the game? Why or Why not?
Were you able to play with more space when you played the disc wide?

Skill Execution-Gate Catch
Set up pylons in pairs (3 feet apart) randomly around the playing area
-Partners (or groups of 3) move around the playing area trying to complete passes
    through the 'gates' which have been set up
-Count how many completed passes through a gate you can make in a row
-If Frisbee is dropped, start count over
-Other groups are also trying to complete as many passes as they can
-Extension: Give groups 30 seconds to complete as many as possible
-After the 30 seconds have them go for another 30 seconds but give them a target number
    of completions

Performance-Ultimate Frisbee
-Split into 2 or 3 games of Ultimate to maximize participation

Lesson 10　　　　　**Game:** *Flag/Touch Football*　　　**Tactic:** *Obtain Possession*

*Game-*Rock Paper Scissors (RPS) Football
-Each student should be given a flag belt with flags positioned at sides (or pinnies)
-Students should be grouped into teams of three
-Two teams stand 20 m apart facing one another
-First player in each line (one of these players will have a ball) will run towards one another; stopping before running into one another (**stress this safety aspect)
-Two players will play Rock Paper Scissors (RPS), best 1 out of 1
-Winner of the game takes the ball and continues towards the other team. Loser returns to the back of their line
-Next person in line from the 'losing' team begins to run when they see their teammate has lost. They run until they meet the person with the ball
-RPS is played again.
-This pattern continues until one player reaches the other line, scoring a 'touchdown'
-If a touchdown is scored the ball is passed to the other team who begins running towards opponent, until they meet someone from the other team
-This pattern is repeated for duration of the game

*Game Appreciation-*Discussion
-Was the game fun? Why or Why not?
-What was important to do to be successful?

*Tactical Awareness-*RPS Flag Football
-Four pylons set up in a 10x10 meter box
-Two groups should stand facing one another
-First player in each line runs, meeting in the middle
-Players play RPS
-Winner becomes offence and tries to run to the opponents' end line
-Loser (defence) tries to take the flag of the winner
-If offence reaches the end line, score one point
-If defence steals flag, they score the point
What did you do to prevent defence from taking your flag?
How did you steal the flag?

*Making Appropriate Decisions-*3 v 3 Flag Snatch 7-Up
-Playing 7-up (previously played) 3 vs. 3
-If 7 passes are completed consecutively, score a point and pass ball to other team
-Player with the ball can now choose to move; but if they do move the defence can pull their flag. Pulled flag results in turnover
-Pause game and allow teams to strategize and return to the game
-When player stands still, they cannot have flag pulled; however, they cannot choose to start and stop running, as soon as they choose to run their flag may be taken

Skill Execution-Flag Game
-All players start within the same playing area
-Objective is to pull as many flags as you can
-When you pull a flag, drop it where pulled
-If flag is pulled, pick it up and put back on before returning to play
-CANNOT hit hands away to prevent flag from being pulled
After 1 minute pause game and ask:
-What is the most effective way to pull a flag? Reaching to same side or reaching across your body?
-How do you protect your flag?
-Play again

Performance-Continuous Flag Football
-Split into teams, with two teams playing against one another
-When in possession of the ball, you may move
-If your flag is pulled when you have the ball, you must stop and make a pass
-On the 5th flag pull ball is given to the defending team
-May pass the ball in any direction while running
-Incomplete pass counts as a flag pull with the ball being returned to spot of throw
-Score a point by receiving a pass inside the end zone